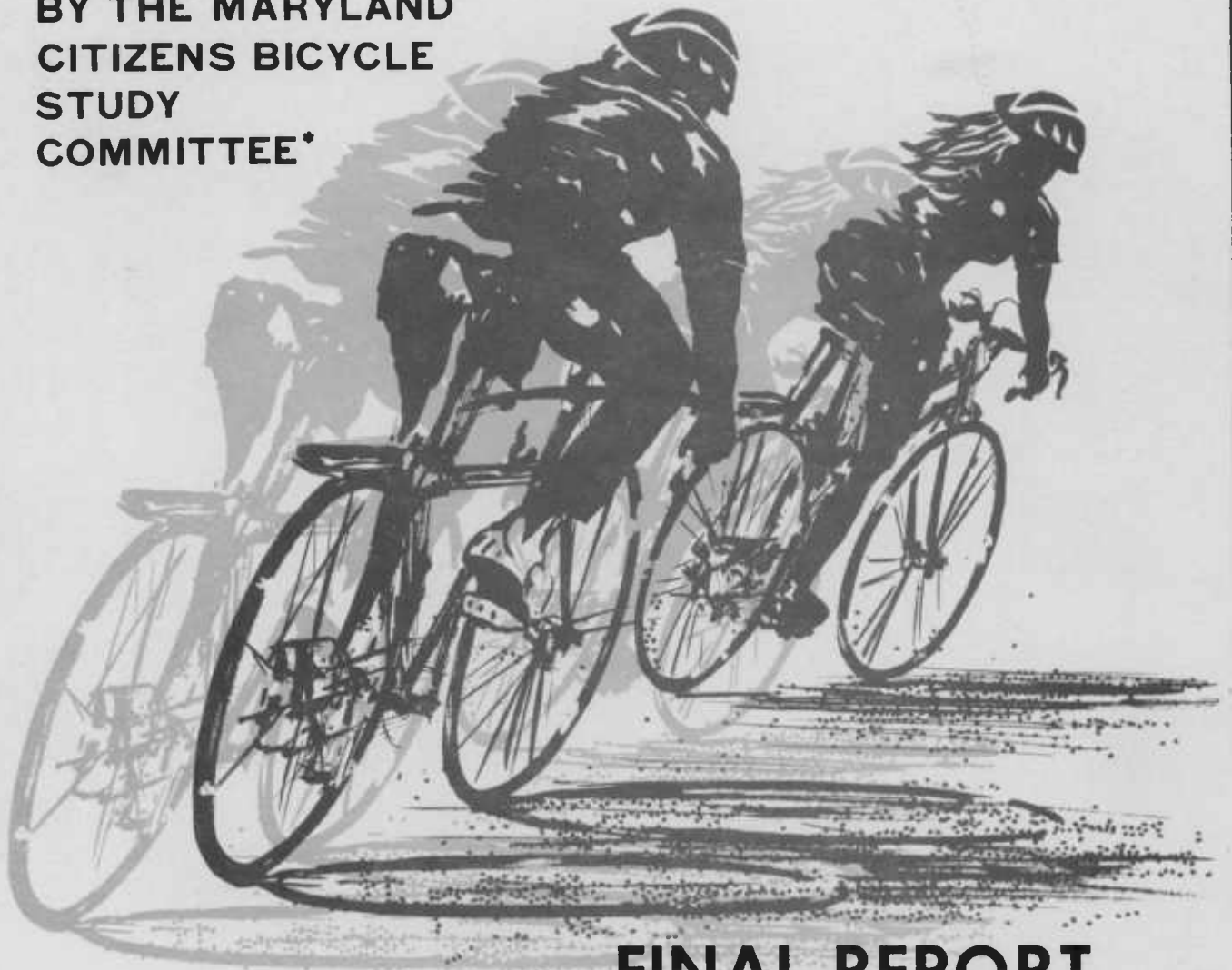


A Report on the Status of Bicycling in Maryland

BY THE MARYLAND
CITIZENS BICYCLE
STUDY
COMMITTEE*



FINAL REPORT

January 1979

*Created by a resolution of the 1977 GENERAL ASSEMBLY and assisted by
Maryland Departments of Transportation, Education, and Public Safety and Correctional Services

REPORT ON THE STATUS OF BICYCLING
IN MARYLAND

BY

THE MARYLAND CITIZENS' BICYCLE
STUDY COMMITTEE

FINAL REPORT

JANUARY 1979

ACKNOWLEDGEMENT

The Maryland Citizens' Bicycle Study Committee members wish to express their appreciation to the Maryland Department of Transportation for its understanding and support during the course of deliberations and in the preparation of the reports. While many Maryland Department of Transportation employees helped, special thanks are given to Paul Farragut and James Nelson, Office of Transportation Planning, and Steven McHenry, State Highway Administration, for their many extra hours working with the Committee. The Committee also appreciates the assistance of the Division of Transportation Safety, MDOT, for providing the Federal financial support to cover direct expenses such as travel, printing, and the costs of conducting the safety conference. Without the help of the Maryland Department of Transportation, this report would not be possible.

This report was prepared through funding provided by the U.S. Department of Transportation, National Highway Traffic Safety Administration.

PREFACE

This is the final report prepared by the Maryland Citizens' Bicycle Study Committee. The Committee was created by the 1978 Maryland General Assembly through Resolution 32 of the Acts of 1977 (House Joint Resolution 51). The Departments of Transportation; Public Safety and Correctional Services; and Education were asked to participate in this Study. Over 50 participants, both bicyclists and State and local representatives, contributed to this effort. The primary duties of the Committee, as charged by the 1978 General Assembly, may be summarized in two principal categories:

- (1) Recommend methods of improving bicycling safety in the State; and
- (2) Recommend methods of improving conditions and opportunities in the State and, hence, promote bicycling as an alternate mode of transportation.

The first report, dated December 1977, was an initial progress report covering the creation, organizational structure and tasks of the Committee. The second report, dated May 1978, was an interim report covering the Committee's work and recommendations through that date. The third report was prepared as an Executive Summary of the conclusions and recommendations of the Committee. It was intended for the use of executives and other policy makers at both the State and local government levels.

Because of the limited resources of the Study Committee (a volunteer operation), there was insufficient time, funds, and manpower available to detail all of the information available to the Committee. Those interested in studying the problem in greater depth should read the detailed information contained in the other reports produced by the Committee, or research the library of reports collected by the Maryland Department of Transportation. Copies of the Committee's reports and information on other reports noted in this publication may be obtained by contacting Mr. Steven McHenry, Maryland State Highway Administration, 300 West Preston Street, Baltimore, Maryland 21201, or by telephone at Area Code 301-383-6869. Comments or inquiries concerning this report should be sent to Mr. McHenry at the above referenced address.

Additionally, readers are encouraged to contact individual members of the Committee for further information and discussion. A detailed listing of the Committee participants and their individual roles can be found in Section VI.

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
BACKGROUND	4
CONCLUSIONS	9
RECOMMENDATIONS	14
SECTION I - REVIEW OF MARYLAND VEHICLE LAWS ON BICYCLING, LICENSING, AND INSPECTION	I-1 - I-26
SECTION II - REVIEW OF LOCAL ORDINANCES AND ADOPTION OF A MODEL ORDINANCE	II-1 - II-9
SECTION III - REVIEW OF PLANNING, DESIGN, CONSTRUCTION, OPERATIONS AND MAINTENANCE OF BICYCLE FACILITIES	III-1 - III-16
SECTION IV - REVIEW OF EDUCATION AND LAW ENFORCEMENT PROGRAMS	IV-1 - IV-4
SECTION V - REPORT ON MOPEDS REGULATIONS	V-1 - V-5
SECTION VI - PARTICIPANTS	VI-1 - VI-12
GENERAL APPENDIX	
FIGURE 1 - NEW DOMESTIC AND IMPORTED BICYCLE SALES	2
FIGURE 2 - PERCENTAGE OF TOTAL BICYCLISTS BY AGE BRACKET	III-A-1
FIGURE 3 - PRIMARY MODE OF TRAVEL FOR WHICH THE BICYCLE WAS SUBSTITUTED	III-A-2
FIGURE 4 - TRAVEL COST COMPARISONS	III-A-3
FIGURE 5 - TRAVEL TIME COMPARISONS	III-A-4
TABLE 1 - MARYLAND BIKE-CAR ACCIDENTS 1973-1977	IV-A-39 IV-A-40~

INTRODUCTION

Bicycle use for commuting and recreation can provide enjoyment, improve public health, and reduce air pollution, traffic congestion, energy consumption, and the cost of personal transportation. The many benefits of bicycling, both personal and to society, provide the justification for local, regional and State Government to recognize the bicycle as a legitimate mode of transportation. It would be in the State's interest to do everything possible to encourage bicycle use and to encourage development and improvement of facilities to accommodate safe and efficient bicycle use.¹

The biggest problem facing Maryland bicyclists is not the lack of information, but the overriding general feeling that the bicycle is either a toy or a fad recreation form, used primarily by children. In addition, there is a lack of coordination between and within governmental departments. The continued assertion that the bicycle is not a serious form of transportation is inaccurate.

A study done by an independent consultant for the Commonwealth of Pennsylvania stated that 25%, or one out of every four cyclists, were 30 years old or older. In fact, only 47% of the cyclists (less than one out of two) were under 16 years of age. The same study indicated that the male/female bicyclist split was 53%/47% or nearly equal and, hence, equally represented by both sexes. The notion that the bicycle is not a serious transportation form was dispelled by the same study. The primary mode of travel for which the bicycle was substituted was the auto (58%) for cyclists of all ages; the auto (40%) for those cyclists under 16 years of age, and the auto (62%) for those cyclists over 16 years of age.² It should be noted that the population has a serious transportation need which can best be served by the bicycle. The bicycle is also the only personal transportation form available to those under 16 years of age.

Travel cost and time comparisons also favorably support the bicycle as a serious transportation mode. The Pennsylvania study shows that the bicycle is the cheapest transportation form to use compared to auto (with varied parking costs) or various transit rates. To a certain extent, travel time favors the bicycle in large urban areas where the trip distance is less than three miles. (The charts and graphs supporting these statistics can be found in Section III Appendix.)

¹Planning and Design Criteria for Bikeways in California, State of California, Department of Transportation, June 1978

²Bicycling in Pennsylvania, for the Commonwealth of Pennsylvania by Barton-Aschman Associates, Inc., November 1975

During the past five years there has been a substantial increase in the sale and use of bicycles. This increase can be primarily attributed to adults. Child use has remained relatively unchanged. Reliable national sources estimate that at least half of bicycle sales and use involves adults. All indications are that this increased purchase and use of bicycles by adults will continue to grow. Annual bicycle sales volumes are continuing at a brisk pace.

A significant factor in bicycle sales and use is the moped. Since the moped is a relatively new vehicle to the United States, it is difficult to accurately predict its impact. It is estimated, however, that the sale and use of moped will substantially increase in the future as the public becomes more familiar with their potential and gasoline becomes more expensive.

This is not to say that the bicycle (and moped) will replace the automobile as the primary mode of personal transportation within the foreseeable future. It is apparent, however, from studying available information that the bicycle will play a continuingly more significant role in our transportation system.

IMPLEMENTATION OF STUDY RESULTS

There are many conclusions and recommendations contained in this report. The Study Committee was successful in having some of its suggestions implemented by various governmental units. The list that follows shows examples of some of the ideas that were accepted.

<u>SUGGESTION</u>	<u>IMPLEMENTOR</u>
1) Revisions to the Maryland Driver's Handbook.	Largely agreed to by the Motor Vehicle Administration, MDOT.
2) Allowing Bicycles on the Port Welcome.	Agreed to by the Maryland Port Administration, MDOT.
3) Suggested changes in the Moped Owners/Bicycle Handbook.	Most changes concurred with the Division of Transportation Safety, MDOT.
4) Resolution supporting acquisition of the Northern Central Railroad above Cockeysville as a hiker/biker trail.	Maryland Department of Natural Resources has decided to acquire this property as a result of endorsement by local groups and individuals.

SUGGESTION

IMPLEMENTOR

- | | |
|--|---|
| 5) Seminar on bicycle safety for Police Officers from around the State. | This meeting was hosted in October, 1978 by the Baltimore City Police Department and was funded by the Maryland Department of Transportation. |
| 6) Policy Statement recommendations to MDOT and other Departments. | Some of the Policy recommendations, recommended for implementation which deal with SHA, are compatible with present thinking. Implementation of several concepts is based on availability of funds. |
| 7) Legislation. | Four legislative proposals were prepared and sent to the Governor's Office for submission on behalf of the Maryland Citizens' Bicycle Study Committee. |
| 8) Consider Bicycle Parking and other improvements in the Northeast Corridor (Rail) Improvement Project. | The Federal Railroad Administration indicated that these improvements will be considered as funds become available. |
| 9) Make copies of Maryland Bicycling Laws more available to the public. | The Motor Vehicle Administration agreed to make copies of a booklet on bicycle laws available at the MVA Offices throughout the State. |
| 10) Definition of "Smooth Surface". | The State Highway Administration has accepted the definition proposed by the Committee which governs when bicyclists must use shoulders rather than use the right edge of the roadway. |

BACKGROUND

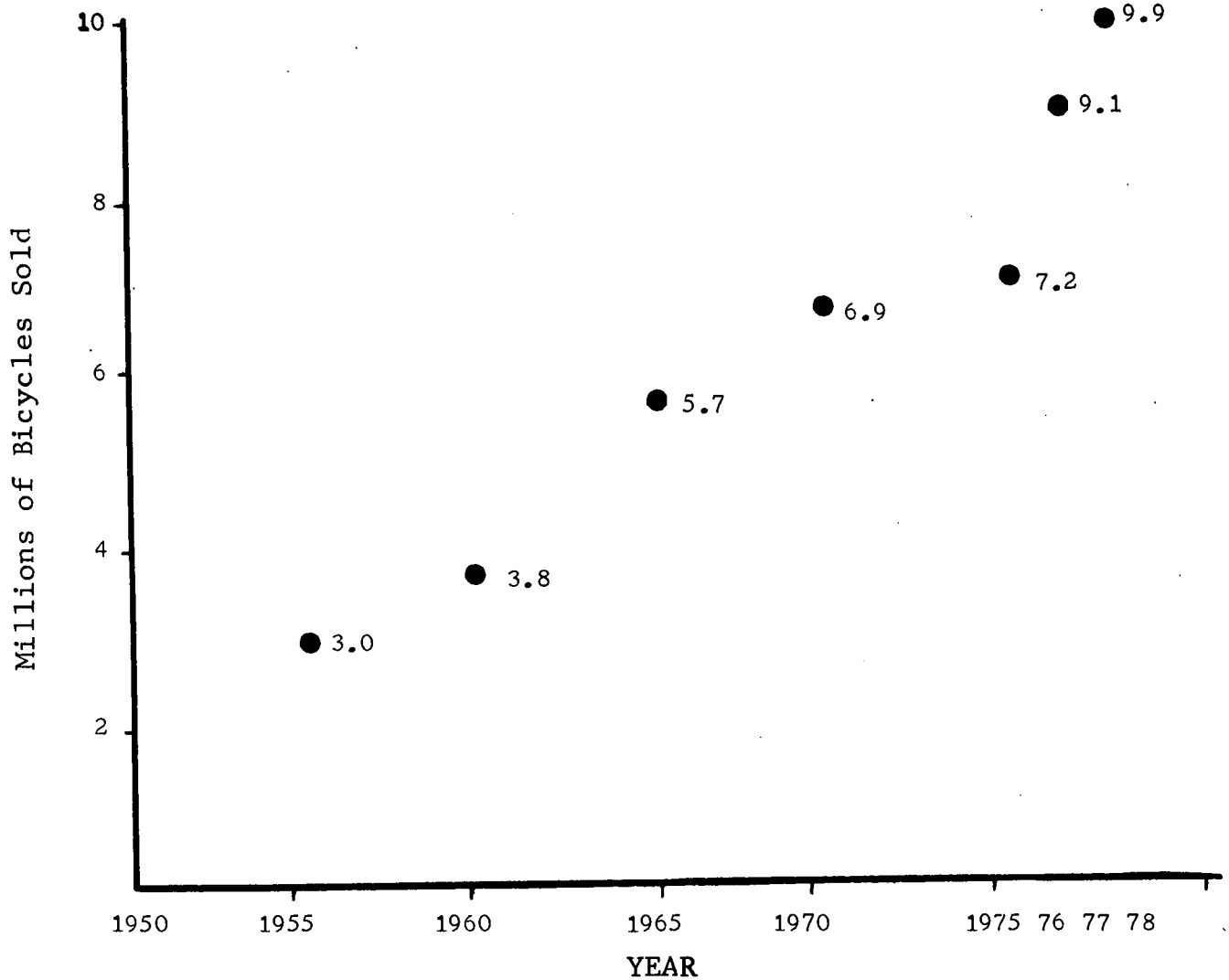
As bicycle sales and use grew from that hardy few in the 1950's to the ever increasing numbers in the 1970's, government agencies, citizen groups, and legislative bodies groped for ways to handle the situation. At present, there are an estimated 100 million bicycle users in this country. Figure 1 indicates that almost 10 million bicycles were sold last year alone. But bicycle sales and use are not the only figures increasing in the bicycling world. The foot and accident statistics, along with the fatalities involving bicycle/motor vehicle accidents are also increasing. This alarming trend caused legislators, Federal and State officials, as well as local citizens to push for the "bikeway" as the answer to the problem. Millions of public dollars were spent trying to separate the bicycle and the motor vehicle. Both bikeway plans and bikeways proliferated in many styles, shapes, and sizes in various areas of the country with varying degrees of success. In the early 1970's new bicycle legislation, at all levels of government, was pushed for approval. Rules-of-the-road lectures were given to children in many classroom situations.

Yet the problems still existed. In forming the Maryland Citizens' Bicycle Study Committee, it was recognized that the "Band Aid" approach to bicycle transportation development would be unproductive in the long run. What was needed was to approach the problem on all levels simultaneously. With this in mind, the Committee reviewed the areas of Education and Law Enforcement, Bicycle Facility Planning, Design and Operation, and Existing Law. Its recommendations in these areas take the form of policy changes, program development and legislative actions. With this comprehensive approach, it is hoped that the complete program will not only increase safe bicycle usage, but integrate the bicycle into the overall transportation and recreation systems within this State.

If a single important area is to be identified for improvement, it must be the area of education and law enforcement. (These two areas are so interrelated that it was not practical to separate them.) In both education and law enforcement, bicycling has a very low priority for action or improvement. Very few educational systems have any real and continuing effective program for bicycle education. Law enforcement officers have little or inadequate understanding of the laws relating to bicycle use or capabilities; even when they do, other circumstances deter them from effectively enforcing them.

FIGURE 1

NEW DOMESTIC AND IMPORTED
BICYCLE SALES IN U.S.-SELECTED YEARS



Source: Raw data supplied by the Bicycle Manufacturers of America.

Most of the bike safety instruction available in schools is little more than re-reading existing bicycle do's and don'ts. There are a blizzard of existing and sometimes conflicting safety programs, most of which are inadequate. Yet, some excellent programs are available. If we are serious about improving bicycle safety for our children, we need a Statewide program in our schools which includes hazzard recognition and avoidance skills.

Education does not stop in the schools. Adult cyclists as well as motorists need to understand their rights and their responsibilities to each other in the daily situations they encounter on the State's highways. The motorist, of all the user categories, probably understands the least about vehicle law as it pertains to the cyclist. This has led to the view by some motorists that the bicycle is a toy to be ridden at the operator's risk and to an underlying feeling that the cyclist simply does not belong on the road. The Committee has recommended improvements in the "Maryland Drivers Handbook" and "The Safety Handbook for Bicycle and Moped Owners". These changes would cost little or nothing to add to future editions and are needed to either correct erroneous or missing information.

It is hoped that these and other recommendations will educate vehicle operators to respect each others rights on the road, increasing the safety of all concerned.

To date, law enforcement officials have not been effective because of:

- (1) Their lack of proper understanding of all the laws and bicycle performance characteristics relating to bicycling;
- (2) Their motor vehicle orientation;
- (3) The problems of enforcing laws with minors; and
- (4) The relative low priority of bicycling/motorist violations in the field or perspective of law enforcement;
- (5) The need for the creation of a simple, uniform (but separate) legal system for bicycle drivers, something that street officers can implement without any extra time or paperwork. It does not have to be mandatory. It should be made attractive by simple effectiveness.

While the Committee has tried to come up with a program of improvement in the area of education and law enforcement, no comprehensive program can be recommended at this time. This remains an area for long term improvement and public awareness.

Up to the present time, bicycle consideration was a hit or miss situation with little coordination within departments of an agency or among the agencies themselves. Accomplishments in cycle transportation were based on the dedication of individuals within the agency rather than on results from an overall program. Individual bikeways were built without an overall planning effort. Traditionally, the department handling roads and highways considered the bicycle. Yet, bicycle consideration should also be included in any transit construction (bike parking at stations and bikes in transit), in any water borne ferry service (bike on boat, bike parking), government building construction (bicycle parking), and other areas. The bicycle fits hand-in-glove with many other transportation modes. Bicycle consideration should be included in various projects: M.V. Port Welcome, Northeast Corridor Improvement Project, and the Baltimore and Washington Mass Transit Systems are several examples.

To insure an orderly evolution of bicycling in the State, there must be a focal point of coordination and review. That focal point does not exist at the State level. At the present time, bicycling matters are handled by both the Department of Natural Resources and the Department of Transportation. Within the Department of Transportation there are several different administrations and divisions handling various aspects of bicycling. During the life of the Committee, communications have improved. There is still a need for a common focal point for bicycling affairs which would coordinate efforts between Departments and between Modal or division authorities in the Department of Transportation. To insure that bicycling matters are properly coordinated, the office responsible should report directly to the Secretary of Transportation. It appears that a small number of people can handle this function and that most of the necessary resources already exist. Some realignment of authority and responsibility, however, may be required.

Local bicycle ordinances were developed in much the same way as the bicycle programs. Many were introduced several decades ago and never revised. Some conflicted with State law and no attempt was made to coordinate the ordinances of local governments. Realizing that this situation existed, the Committee conducted an extensive survey of existing local ordinances. Section II contains their findings and makes recommendations on this problem.

State law was not without its inconsistencies. State laws regulating bicycle use evolved much the same way as local ordinances. These efforts and recommendations are found in Section I.

Bicyclists disagree among themselves on bicycle registration and licensing and right of access (the use of controlled access highways). While no firm recommendations are made on these two issues, an effort has been made to research the subjects for indepth discussion. Both issues cause many emotional and subjective arguments. In studying the history of these issues, the Committee attempts to give a fair review of the situation in this report so officials can make the proper judgments.

The moped is new to the modal mix. It is too early to tell the effect mopeds will have on the present transportation situation nor the regulations, facilities, etc., needed to accommodate them.

Finally, an attempt has been made to present a comprehensive study of the bicycle that will allow officials to develop a cohesive plan of action. This is the only way that a program can have any chance of success in placing the bicycle in its proper perspective in the overall transportation scheme.

CONCLUSIONS

The Study Committee has investigated all of the basic tasks assigned to it. Most of these tasks have been addressed in detail and our recommendations follow. A few tasks or other considerations the Committee identified, however, were beyond the resources and time constraints of the Committee to address in sufficient detail to recommend a positive solution or position. These considerations are identified herein and a plan of action recommended. Our conclusions are summarized as follows:

1. Valid Form of Transportation

Bicycling is a valid form of transportation for commuting, recreation, exercise and play and a significant number of the State's population engage in bicycling at various levels of participation. Lack of any meaningful data precludes identifying what percent of the State's population utilize a bicycle, but it is estimated that close to 50% of the population use the bicycle at least occasionally. Bicycling growth as an alternative mode of transportation, however, has not been promoted and, in fact, has often been discouraged by State and local agencies.

2. State Bicycle Coordination, Organization and Implementation

With bicycling achieving the interest and participation that it does, there should be a State agency or department which coordinates matters of interest to bicyclists and integrates or relays those interests throughout the State. We were unable to identify any person or office within the State that had primary responsibility for coordinating bicycling matters. There are, within the Department of Transportation, a few individuals that have fragmented responsibility for various aspects of bicycling but they work together informally. Their line of authority, however, is very long and weak. Bicycling, as a significant mode of transportation, deserves a more coordinated and significant voice in our transportation planning and the public needs a focal point for information or contact.

3. Need for Continuing Formalized Citizen Involvement

Bicycling, as a reemerging mode of transportation, will continue to evolve along with our overall transportation system. It is necessary that citizens take a significant role in this evolution. This Committee has taken a major step in that process, but much remains to be done before bicycling reaches the maturity of the automobile. The fact that citizens may attend public hearings,

or send in a letter, is not enough. There must be a continuing coordinating committee of experienced bicyclists to interface between the government and the general public. Almost every highway planner drives an automobile, but how many use a bicycle enough to understand the problems of cycling?

4. Legislative Recommendations and Items for Further Study

The Maryland laws affecting bicycling in Maryland are superior to those of most States. The General Assembly is to be complimented. There are, however, a number of areas where improvement is needed. The improvements may be divided into two categories: (1) those provisions which can be enacted into law immediately, and (2) those provisions for which additional study or information is required before the proper recommendation can be made. Section I details those sections of law which can be implemented immediately. The areas remaining for additional study before the proper recommendation can be made include, but are not limited to (1) registration, (2) licensing, and (3) the use of controlled access highways and the overall issue of right of access.

5. Local Model Ordinance

The Subcommittee reviewing local ordinances perceived a need for the adoption of a comprehensive model ordinance for Statewide use. They further concluded that the Uniform Vehicle Code Model Bicycle Ordinance meets the needs of Maryland and should be promulgated as a reference guide for communities in the State to use as they develop or review their own local ordinances.

6. Transportation Policy Recommendations

Significant improvements can be made within the State at the policy level primarily without legislative action, but not solely within the transportation environment. (Section III contains a complete list of the significant policy considerations derived by the Subcommittee on facilities and planning.) The Maryland Department of Transportation, through its State Highway Administration, is to be commended on its cooperation in developing and implementing many of these policy decisions.

Policy considerations must not stop at the State level, but must also be accepted at the local level and by the private sector. For example, the State Highway Administration has adopted the policy of installing only "bike safe" storm grates on all State roads and is actively replacing unsafe grates where possible. This policy, however, has little or no impact on county, city and private roadways, i.e., shopping centers, etc., unless they adopt

similar policies. Since State roads are generally used with less frequency and represent only a fraction of our roadways, policy considerations must be adopted at all levels.

7. Education and Law Enforcement

As previously indicated, the area where the most significant progress can be made in improving bicycle safety is in Education and Law Enforcement. If we are to improve bicycle safety within the State, we must implement an active and effective program of education and enforcement and include the judicial branch of government.

The two most readily available means for the State to communicate with Maryland bicyclists and motorists are the Maryland Driver's Handbook, published by the Motor Vehicle Administration, and the "Safety Handbook for Bicycle and Moped Owners", published by the Maryland Department of Transportation. These booklets do not contain all the necessary and accurate information needed to make both motorists and cyclists aware of the rights and responsibilities of cyclists. With minimal increase in budget for printing, these booklets can be revised with the cooperation of the appropriate State officials in order to provide clear, accurate information on the rights, responsibilities and problems of cyclists who share the roadway with motor vehicle drivers. Such revisions to these booklets would accurately reflect the increased use and interest in bicycles and mopeds throughout the State. (The Committee has been successful in getting the Motor Vehicle Administration to commit themselves to properly revising the Maryland Driver's Handbook.)

With regard to bicycle safety education, the Committee believes:

(a) Although bicycle safety education programs, available from the State Department of Education, provide thorough information on bicycle handling and rules of the road, none of them offers the essential ingredient of on-the-bike, on-the-road training for the cyclist to learn how to prevent, avoid, or reduce the risk of injury.

(b) Such bicycle safety education programs, often called bike/car accident 'countermeasure' programs, do exist. One such program, sponsored by the League of American Wheelmen titled "Effective Cycling", is taught at many locations around the country.

(c) In spite of the availability of bicycle safety education programs on the State level, bicycle safety education is "spotty" to "non-existent" among the school districts around the State, and ineffective in general.

(d) On the other hand, many law enforcement agencies and private volunteer groups such as 4-H Clubs, the American Automobile Association, the League of American Wheelmen, as well as safety conscious volunteers, are attempting to implement bicycle safety education programs which are effective in varying degrees.

(e) Such public and private bicycle safety measures are hampered by the lack of appropriate funding, equipment and materials.

(f) The Maryland State Department of Education is on record as being opposed to the adoption of mandated bicycle safety education in the schools of Maryland as presented in the 1978 Session of the General Assembly.

(g) Accident studies, such as "A Study of Bicycle/Motor-Behicle Accidents: Identification of Problem Types and Counter-measure Approached" (September, 1977) by Kenneth D. Cross and Gary Fisher, identify bike/car accident types by age of cyclist and specify road and sidewalk hazards, especially those at driveways and intersections. These studies confirm the skills which must be taught to all age groups as part of on-the-bike, on-the-road training.

(h) On-the-road, on-the-bike training must be adopted as part of bicycle safety education in Maryland in order for bicycle safety programs to be effective in reducing bike/car accidents.

Law enforcement is also in need of serious considerations. At the present time, there is little attempt to seriously enforce the rules of the road as they relate to bicyclists' behavior, or to car/bicyclist conflicts. The general public and many law enforcement officers still do not recognize the bicycle as a legitimate vehicle entitled to equal use of our roadways as detailed in the Transportation Articles of the State. Even when law enforcement officers conscientiously try to enforce the law, they become frustrated or disenchanted with either "parental" or "judicial" attitudes, i.e., "How can you pick on my Johnny when you have more important things to do?" Our law enforcement problems are another endorsement for a very strong educational program at all age levels.

8. Mopeds

A major unknown in our bicycling posture, attitude, and problems of the future is the newcomer to the American public - the moped. The moped is still so new to this country that little, in comparison to the automobile and bicycle, is known about it. While many predictions have been made about the sales and growth

of the moped, it is still too early to accurately predict the future growth of the moped. Its growth is highly dependent on our economy. As fuel becomes proportionately more expensive, or scarce, more and more mopeds will be sold and used. As long as our economy remains strong, the moped growth will be slow. The reason for this is that most mopeds are bought by people for economical transportation who do not want to exert themselves any more than necessary, but do not mind some exposure to the elements. Bicycles, on the other hand, are bought for exercise, recreation, etc., and frequently used to avoid motorized transportation and improve health.

RECOMMENDATIONS

1. Bicycle Affairs Coordinator

That the Secretary of Transportation establish and fill the position of "Bicycling Affairs Coordinator". This position must be at staff level in the Office of the Secretary and be held by an individual competent in bicycling matters. Individual Modal Administrators shall be encouraged to designate someone within their office to have prime responsibility for bicycling matters and who will be directly responsible to their respective Modal Administrator. The general responsibilities of the Bicycling Affairs Coordinator are discussed in more detail in Section III. Appropriate funding must be made available for the establishment of the position of Bicycling Affairs Coordinator. The Secretary of Transportation must make provisions for either realigning his staff or adding one (1) staff position (or slot) and for appropriate secretarial support.

2. Continuation of the Bicycle Study Committee

That the Secretary of Transportation appoint a Maryland Citizens' Bicycle Committee on a long-term basis. Membership on the Committee should be by appointment on an annual basis of individuals directly involved in bicycling matters within the State. It should consist of approximately eight (8) individuals. The Maryland Department of Transportation Bicycling Affairs Coordinator should act as the Executive Secretary. The Committee should have available to its designated coordinators, from the various departments within the State, including the Attorney General's Office, legal opinions or advice. The Maryland Department of Transportation must make provisions for direct Committee financial and staff support, including postal expenses, necessary travel costs, some limited secretarial support, etc. (Members of the Committee would be unpaid but reimbursed for their extraordinary expenses such as postage, telephone calls and travel.)

3. Sunset Provision

The above two (2) recommendations should be set up initially for a three (3) year period and thereafter reviewed every two (2) years to determine the need for continued existence.

4. Bicycle Legislation

The Committee has introduced for consideration at the 1979 Session of the General Assembly, a comprehensive legislative

package. The details of this legislation are contained in Section I. It represents the findings of the Committee, as modified through coordination with the Maryland Department of Transportation. It is requested that this General Assembly give priority consideration to the passage of these bills as introduced.

5. Model Bicycle Ordinance

That the Model Bicycle Ordinance, taken from Article XII of the Model Traffic Ordinance, National Committee on Uniform Traffic Laws and Ordinances, be recommended as the State's guide and that the appropriate State organizations encourage all counties and municipalities within the State to examine their current ordinance and adopt it, where feasible.

6. Planning, Location, Design and Construction Criteria

The Maryland Department of Transportation, Department of Natural Resources, Department of General Services, and other State agencies adopt the: "A Bikeway Criteria Digest", and "Planning and Design Criteria for Bikeways in California" as the base manuals for planning, location, design and construction of bicycle facilities. Where a conflict arises between the two (2) publications, the "Planning and Design Criteria for Bikeways in California" shall take precedence. The Bicycling Affairs Coordinator, working with the Citizens' Bicycle Committee and appropriate Federal officials, should emphasize the development of the new minimum design standards for both bicycles and mopeds. To reduce the potential liability problem, any facility not meeting the minimum standards should not be marked as a bike route.

7. State Highway Administration and Mass Transit Administration Policies

That the policy considerations, as detailed in Section III be incorporated as policies of the Maryland Department of Transportation (or other appropriate department), and that the Maryland Department of Transportation encourage the individual counties and municipalities, Amtrak and Metro to adopt the same policy recommendations as appropriate.

8. Bicycle Educational Information

That the Secretary of Transportation take steps to insure that all future editions of the "Maryland Drivers Handbook" and "A Safety Handbook for Bicycle and Moped Owners" be revised to

incorporate the changes detailed in the Interim Report and subsequent correspondence. The Drivers Handbook is seriously deficient in its treatment of bicycling with respect to both the motorist's and bicyclist's responsibilities.

9. Bicycle Education

That the Secretary of Education evaluate alternatives and recommend a more effective program of Bicycle Education in our schools. Implementation of the presently available programs is inadequate.

10. Enforcement of Bicycle Laws

That the Superintendent of State Police direct each officer to review the vehicle laws pertaining to bicycles and take appropriate steps to increase their enforcement against both bicycles and motorists. The Maryland Department of Transportation, Motor Vehicle Administration, publishes a booklet containing the appropriate laws. Copies should be distributed to Police Officers to facilitate their review.

11. Bicycle Law Publication

That the Maryland Department of Transportation, Motor Vehicle Administration, continue publishing the pamphlet: "The Maryland Vehicle Law Pertaining to Bicycles". In future editions, publish it in a size that is easier to carry in a bicyclist's pocket or mail in standard envelopes.

12. Bicycle Registration

That the Department of Transportation develop a uniform State-wide bicycle registration system for voluntary adoption by local jurisdictions. The details of this recommendation are contained in Section I.

13. State Acquisition of Abandoned Railroad Rights-of-Way

That the State acquire all abandoned railroad rights-of-way without delay for future use as either linear park or transportation corridors. A special effort shall be made to retain railroad bridges and underpasses within these rights-of-way.

14. Bicycle Facilities

That the Maryland Department of Transportation and other departments, as appropriate, adopt the recommendations on bicycle facilities listed in Section III.

15. Need for Formal Attorney General's Opinion

That the Maryland Department of Transportation request a formal Attorney General's opinion to clarify where and on what highways a bicycle may be ridden. This important question specifically relates to use of shoulders and types of highways where incomplete control of access exist. To date, there have been conflicting "informal interpretations" by the legal staff on this issue.

ISSUES FOR FUTURE CONSIDERATION

- Controlled Access Highways - the use of controlled access highways and overall right of access. There are numerous aspects of this problem which need to be addressed, some of which are more complex than Transportation issues alone.
- Mopeds - the role of the moped. While interim recommendations are contained in Section V, the moped is still so new that good information about moped-related problems is scarce and frequently subject to conjecture or erroneous conclusions. This is an area subject to future economic conditions. Intensive study is required.
- Bicycle Registration - mandatory Statewide Bicycle Registration. Although recent studies have found it to be both workable and effective, it remains an emotional issue with little support by the general population or by those agencies that would normally handle the program. Additional information can be found in Sections I and III.
- Licensing and/or Inspection - licensing and/or inspection also remains a controversial issue. Similar pros and cons that have been debated for registration also hold true for licensing and inspection.

SECTION I

REVIEW OF MARYLAND VEHICLE LAWS ON BICYCLING, LICENSING AND INSPECTION

	<u>Page</u>
• Introduction	1
• Proposed Legislation in Bill Form	4
• Comparison of Maryland Vehicle Law and the Uniform Vehicle Code	19
• Registration	24

Introduction

One of the charges to the Maryland Citizens' Bicycle Study Committee in the Act of the 1977 General Assembly which created the Committee, was the task of reviewing those Maryland vehicle laws affecting bicycling and, where necessary, to make recommendations for improvement to, or clarification of laws affecting bicycling in this State.

A sub-committee on Maryland Vehicle Laws, Licensing and Inspection was created by the Study Management Committee at their first organizational meeting. The sub-committee reviewed all State laws relating to bicycling. The findings and recommendations of this group were studied by the Study Management Committee and comments were solicited and received from the State Highway Administration, the Motor Vehicle Administration, and State Police. As a result of this investigative and consultative process, the Committee developed several recommendations for the consideration and action of the General Assembly at its 1979 session. These proposals cover the areas of dismounted bicyclists, keeping to the right, riding two abreast, hand and arm signals, flashing amber light and audible warnings. The Bill Order Forms which include suggested language and an explanation or justification for the proposed legislative changes are included as page 5 to 18 of this attachment. (The final legislation, as introduced by the Governor's Office, modified, and enacted by the Maryland General Assembly, can be found in the General Appendix of this report.)

In general, we believe that changes made to bicycle laws over the last few years have created a more positive atmosphere for safe bicycling in Maryland.

It is the opinion of the Committee that no action at the State level should be undertaken at this time concerning bicycle operator's license, inspection, and licensing of bicycles. Our State presents a variety of demographic situations ranging from sparsely settled rural areas, through densely populated suburban areas with many paved streets, to both large and small incorporated towns and cities. The needs of these often disparate groups on licensing and inspection can best be handled at the local level by ordinance, rather than by State laws that in some cases are not needed, wanted, or, indeed, enforceable.

The Committee also considered the need for a State law requiring that all bicycles sold in this State bear a unique identifying number permanently stamped on the frame, as noted in Section 12-708 of the Uniform Vehicle Code, but the Committee is not, at this time, recommending the enactment of such a requirement. When the development of a useful bicycle registration system

is undertaken, the problem of the Bicycle Identification Number should be incorporated in that study. The views of the Committee on the subject of bicycle registration are detailed on pages 24-26 of Section I.

Perhaps the most controversial recommendation is the proposal that paragraph (b) of Section 21-1205.1 be deleted from Maryland Vehicle Law. This paragraph specifies that where a bike lane or shoulder is paved to a smooth surface, a person operating a bicycle shall use the bike lane or the shoulder and may not ride on the roadway except under certain listed situations. Sub-paragraph (3) of paragraph (b) asks for a definition of "smooth surface".

The Committee studies the problem of semantics posed by subparagraph (3) and developed a definition which it has reason to believe is acceptable to bicyclists, understood by law enforcement officers, and even useful to the courts when controversies over paragraph (b) reach the courtroom.

The Committee's definition of "smooth surface" is simple, to the point, and certainly useful to the cyclist when a judgment must be made whether the condition of the bike lane or shoulder surface is bad enough to justify the use of the roadway until the rough and dangerous portions of the bike lane or shoulder have been passed by. Similarly, the definition would be of great help to law officers facing the necessity for judging the cyclists decision.

This definition is as follows:

"A smooth surface is one which has a surface texture and surface undulations equal to or smoother than the adjacent roadway."

An acceptable variation was:

"A smooth surface is one which has a surface as good as that of the roadway."

There are only four States which now require shoulder use. States which do not require shoulder use appear to have no more accidents than those States which do.

If the Maryland General Assembly does not approve the proposed changes to the mandatory use law, then the Committee would like to see the Maryland Department of Transportation adopt rules and regulations which define "smooth shoulder" as noted above.

A letter has been received from the State Highway Administrator (see General Appendix) who agrees with the Committee's proposed definitions of "smooth surface".

It is proposed that bicyclists be given the right to use the roadway even though bike lanes or shoulders exist, by abolishing the present statute which requires cyclists to use shoulders under certain conditions. In actual practice, a clean, safe lane or shoulder will be preferred by most cyclists to the roadway used by fast moving automobiles and trucks. This proposal is among the Bill Orders included herein.

Another topic examined by the Committee concerns the use of shoulders on partially controlled access highways. As noted in Section III of this report, a formal opinion from the Office of the Attorney General is needed to clarify conflicting informal interpretations of the law by legal staffs concerning the bicyclist's rights on these "partially" controlled access highways.



Maryland Department of Transportation

The Secretary's Office

Blair Lee III
Acting Governor
Hermann K. Intemann
Secretary

January 2, 1979

The Honorable Blair Lee III
Acting Governor
State House
Annapolis, Maryland 21401

Dear Governor Lee:

In October I transmitted to you the legislative proposals recommended by the Maryland Citizens' Bicycle Study Committee. The Committee has been continuing its review and discussions of Maryland's bicycle laws with Departmental personnel. Based upon recent findings, the Committee has suggested that changes be made in their original legislative package. Attached, in bill form, are their revised proposals.

Again, I want to say that the Committee should be commended for their diligence.

Sincerely,

Hermann K. Intemann
Secretary

HKI:mg
Attachments

cc: Mr. John Rost
Thomas J. Peddicord, Jr.

My telephone number is (301) - _____

(1b) AN ACT concerning Bicyclists

FOR the purpose of deleting the mandatory use of bike
lanes and shoulders by bicycles.

CIRCLE
ONLY ONE:

- (rr) ~~BY~~ repealing and re-enacting, with amendments,
or
(an) ~~BY~~ adding to
or
(r) ~~BY~~ repealing

Article TransportationSection 21-1205.1(b)

Annotated Code of Maryland

(19 77 Replacement Volume and 197 8 Supplement)

Circle as appropriate

(ed) - July 1 effective date

(eed) - emergency effective date

(aed) - abnormal effective date/DATE: _____

(sev) - severability clause

(sii) - salary increase not to
affect incumbent

ARTICLE

TRANSPORTATION

21-1205.1

- [(b) Roadway with bike lane or shoulder paved to smooth surface. - (1) Where there is a bike lane paved to a smooth surface or a shoulder paved to a smooth surface, a person operating a bicycle shall use the bike lane or shoulder and may not ride on the roadway, except in the following situations:
- (i) When overtaking and passing another bicycle, pedestrian, or other vehicle within the bike lane, or shoulder, if the overtaking and passing cannot be done safely within the bike lane or shoulder.
 - (ii) When preparing for a left turn at an intersection or into an alley, private road, or driveway; or
 - (iii) When reasonably necessary to leave the bike lane or shoulder to avoid debris or other hazardous condition.
- (2) A person operating a bicycle may not leave a bike lane or shoulder until the movement can be made with reasonable safety and then only after giving an appropriate signal.
- (3) The Department shall promulgate rules and regulations pertaining to this subsection which will include, but not be limited to, a definition of "smooth surface."]

[]...Delete
Caps...New Language

JUSTIFICATION

SECTION 21-1205.1(b) OF THE MARYLAND VEHICLE CODE AS AMENDED IN 1977 REQUIRES:

"Where there is a bike lane paved to a smooth surface or a shoulder paved to a smooth surface, a person operating a bicycle shall use the bike lane or shoulder and may not ride on the roadway."

This section is considered by bicycle operators and law enforcement officials to be ambiguous, due to the use of the term "smooth surface". This term calls for a judgment to be made on the part of the cyclist when deciding to use the roadway, and on the part of the law enforcement official in the issuing of a citation. This same section requires the Department of Transportation to promulgate rules and regulations pertaining to the term "smooth surface".

One valid reason for adopting the recommendation to abolish 21-1205.1(b) relates to the problems encountered in trying to define "smooth surface" in present law. Attempts by both transportation engineering personnel and the Maryland Citizens Bicycle Study Committee failed to produce a definition of "smooth surface" which would be both simple enough for a police officer to use, yet specific enough to differentiate surfaces acceptable to today's multi-speed bicycles which require a "smooth surface" to operate satisfactorily.*

At the present time only four States still require shoulder use. In practice, cyclists use shoulders when they are clean, safe, and well maintained even when not required by State law. The repeal of this section of law would bring Maryland in conformance with the Uniform Vehicle Code.

The Committee found no evidence to indicate that voluntary use of shoulders contributes to higher accident rates between motor vehicles and bicycles.

*Agreement between the Committee and the Maryland Department of Transportation has been reached on a definition for "smooth surface" and it is now being promulgated into the rules and regulations of the Department.

(ib) AN ACT concerning Bicyclists

FOR the purpose of permitting a dismounted bicyclist to push a bicycle along the right side of the highway; and deleting the restriction on riding bicycles two abreast on the highway.

CIRCLE
ONLY ONE:

- (rr) ~~BY~~ repealing and re-enacting, with amendments,
or
(an) ~~BY~~ adding to
or
(r) ~~BY~~ repealing

Article TransportationSection 21-1205

Annotated Code of Maryland

(1977 Replacement Volume and 1978 Supplement)

Circle as appropriate

(ed) - July 1 effective date

(sev) - severability clause

(eed) - emergency effective date

(sii) - salary increase not to
affect incumbent

(aed) - abnormal effective date/DATE: _____

ARTICLE
TRANSPORTATION

21-1205

- (a) 1. Ride as near to the right side of the roadway as practicable AND SAFE, except when making or attempting to make a left turn, when operating on a one-way street, or when passing a stopped or slower moving vehicle; and
 - 2. Exercise due care when passing a vehicle.
 - 3. DISMOUNTED BICYCLISTS MAY REMAIN ON THE RIGHT SIDE OF THE HIGHWAY AND WHEN A SIDEWALK IS PROVIDED, THE BICYCLIST SHALL USE THE SIDEWALK.
- (b) Persons operating bicycles in a public bicycle area OR ON A ROADWAY may not ride more than two abreast. [Persons operating bicycles on a highway shall ride in single file] RIDING TWO ABREAST IS ALLOWED ALONG THE ROADWAY AS LONG AS IT DOES NOT IMPEDE THE FLOW OF TRAFFIC.

[]...Delete
Caps...New Language

JUSTIFICATION

21-1205(a)(1)

Bicyclists have learned by experience that the special requirement in Section 21-1205(a)(1) which specifies that each person operating a bicycle on a roadway shall "ride as near to the right side of the roadway as practicable" is often misunderstood by motorists, and even by some enforcement authorities, to mean "as far as possible", even when it is dangerous, or perhaps impossible, to ride to the extreme right because of debris, deteriorated road surface or the presence of various hazards or obstacles threatening the safe passage of the bicycle operator.

It is possible that the bicyclist's difficulty is one of semantics since some dictionaries show "possible" as a synonym for "practicable" - a not entirely justified usage.

It is believed that the addition of the term "and safe" after the word "practicable" will serve to clarify the intent of the existing stricture and make clear the rights of the bicyclist to the use of a safe portion of the roadway.

21-1205(a)(3)

The line separating the bicyclist from classification as a pedestrian, in law, is very easily crossed. By dismounting and walking the bicycle, the bicyclist becomes a pedestrian who must operate under a whole new legal status with a new set of rules. The proposal would clearly permit a bicyclist, forced to dismount because of an up-grade too steep for the cyclist's physical power or because of mechanical failure, to remain on the right side of the highway; a position not granted the pedestrian who must walk facing on-coming traffic, i.e., on the left side.

Under present law, the dismounted cyclist, as a pedestrian, must cross the highway to walk the bicycle facing traffic, and then must re-cross the highway to remount and ride the vehicle. In this situation, a potentially dangerous bicycle/motor vehicle accident is more likely to develop than if the cyclist, after dismounting, remained on the right side of the highway as do operators of other vehicles.

No data has been found to indicate that the proposal would create any new safety problem.

The proposal also requires that where a sidewalk is provided, the dismounted cyclist would still be required to use it.

21-1205(b)

In the most recent bicycle/motor vehicle accident study, funded by the National Highway Traffic Safety Administration, a review of 1,000 accidents in four States did not find any relationship between riding two abreast on the roadway and bicycle/motor vehicle accidents. In fact, the report noted that, in some cases, single file riding resulted in an accident to the rear-most cyclist.

Under existing law, bicyclists are required to ride single file even on the shoulder due to the use of the term "highway" since the shoulder is a part of the highway. This stricture does not seem reasonable since some shoulders are wide enough to permit side-by-side riding as a safe practice.

Presently, riding two abreast is permitted in thirty eight (38) States and this proposal is in conformity with the Uniform Vehicle Code.

(1b) AN ACT concerning Bicycle Equipment

FOR the purpose of allowing the use of a flashing amber light on a bicycle or bicyclist; deleting the requirement that a bicycle have a bell; defining warning device; allowing the use of the human voice as a warning device; and requiring that a Moped have a horn.

CIRCLE
ONLY ONE:

- (rr) ☒ BY repealing and re-enacting, with amendments,
or
(an) ☐ BY adding to
or
(r) ☐ BY repealing

Article TransportationSection 21-1207

Annotated Code of Maryland

(1977 Replacement Volume and 1978 Supplement)

Circle as appropriate

(ed) - July 1 effective date

(sev) - severability clause

(eed) - emergency effective date

(sii) - salary increase not to
affect incumbent

(aed) - abnormal effective date/DATE: _____

ARTICLE

TRANSPORTATION

21-1207 (a)(1) If a bicycle is used on a highway at any time when, due to insufficient light or unfavorable atmospheric conditions, persons and vehicles on the highway are not clearly discernible at a distance of 1,000 feet, the bicycle shall be equipped:

(a)(3) IN ADDITION TO THE REQUIREMENTS IN (1) ABOVE, A BICYCLE OR BICYCLIST MAY BE EQUIPPED WITH A FLASHING AMBER LIGHT VISIBLE TO THE REAR.

(b) [Bell - A person may not operate a bicycle unless it is equipped with a bell or other device capable of giving a signal audible for a distance of at least 100 feet. However, a bicycle may not be equipped with, nor may any person use any siren or whistle on a bicycle.]

(b)

AN OPERATOR OF A BICYCLE SHALL BE REQUIRED, WHEN REASONABLY NECESSARY, TO INSURE SAFE OPERATION, TO GIVE AN AUDIBLE WARNING CAPABLE OF BEING HEARD UNDER NORMAL CONDITIONS FROM A DISTANCE OF NOT LESS THAN 100 FEET.

(1) HUMAN POWERED BICYCLE OPERATORS MAY GENERATE THE WARNING BY EITHER A BELL, AN AIR, ELECTRICAL, OR MECHANICAL HORN, OR BY VOICE.

(2) MOTOR ASSISTED BICYCLES MUST BE EQUIPPED WITH A HORN IN OPERATING CONDITION.

(3) A BICYCLE MAY NOT BE EQUIPPED WITH NOR MAY ANY PERSON USE ON A BICYCLE ANY SIREN OR WHISTLE.

[]...Delete
Caps...New Language

JUSTIFICATION
FLASHING AMBER LIGHT

The major contributory factor to most bicycle/motor vehicle accidents, as identified by a recent National Highway Traffic Safety Administration bicycle/motor vehicle accident study of 1,000 accidents in four States, is the bicycle's lack of conspicuousness. This problem is compounded at night by the poor quality of existing bicycle lighting systems. So much so, in fact, that the overtaking accident (a predominately night-time accident) represents 24% of all deaths resulting from bicycle/motor vehicle accidents.

Bicyclists have long been aware of the special danger that night-time cycling presents and have continuously sought to improve their visibility. Recent technology has now made a flashing electric light (similar to those used on highway construction obstacles) practicable for incorporation as a light-weight accessory suitable for attachment to a bicycle. The amber color is distinctively visible over long distances and its flashing operation, along with making it all the more conspicuous, allows for the conservation of energy in what is usually a battery-powered device.

Under present law, certain vehicles (usually due to slow speed) are permitted to display this type of device as a warning to overtaking vehicles. In the same vein, this proposal would allow its use on a vehicle (the bicycle) which has a low average speed; is difficult to see due to its size; and is vulnerable in an accident situation.

The Uniform Vehicle Code does not prohibit bicyclists from using a flashing amber light. Presently 46 States permit the use of a flashing amber light to enhance the visibility of bicyclists at night. This proposal, allowing the use of an amber flashing light, would bring Maryland in conformance with the Uniform Vehicle Code and the laws of 25 other States in this section.

WARNING DEVICES

The present paragraph concerning warning devices required as equipment on a bicycle is ambiguous when compared to the requirements and use of warning devices on motor vehicles in that it ignores the requirement to actually use the device when necessary to alert other traffic. For that reason, Section 21-1207(b) has been restructured to include mention of the use of warning devices; to incorporate the voice as an acceptable alternative to the bell or horn for operators of human-powered bicycles;

and to specify the horn as the required warning device on motor-assisted bicycles (MOPEDS).

The need for the human-powered bicycle operator to remove the hands from the bicycle controls during an emergency situation to use the bell or horn makes this device sometimes difficult to use as an emergency warning device. Moreover, the human voice is far more practical and effective, under certain circumstances, as a warning device than the presently required mechanical devices.

BILL ORDER

(1b) AN ACT concerning Bicyclists - signals.

FOR the purpose of modifying the requirement that hand and arm turn signals be displayed continuously for a distance of 100 feet before the turn is made and to give bicyclists the option of making the right turn signal with the right hand and arm.

CIRCLE
ONLY ONE:

- (rr) BY repealing and re-enacting, with amendments,
or
(an) BY adding to
or
(r) BY repealing

Article Transportation

Section 21-604(b), 21-606

Annotated Code of Maryland

(1977 Replacement Volume and 1978 Supplement)

Circle as appropriate

(ed) - July 1 effective date

(eed) - emergency effective date

(aed) - abnormal effective date/DATE: _____

(sev) - severability clause

(sii) - salary increase not to
affect incumbent

ARTICLE
TRANSPORTATION

21-604(b)

When required, a signal of intention to turn right or left shall be given continuously during at least the last 100 feet traveled by the vehicles before turning. A BICYCLIST MAY INTERRUPT THE TURNING SIGNAL TO MAINTAIN CONTROL OF THE VEHICLE.

21-606(a)

Each required signal given by hand and arm shall be given from the left side of the vehicle in the manner specified in this section.

- [(b)] 1-A left turn signal is given by the hand and arm extended horizontally
- [(c)] 2-A right turn signal is given by the hand and arm extended upward.
- [(d)] 3-A stop or decrease in speed signal is given by the hand and arm extended downward.

- (b) A RIGHT TURN SIGNAL MAY BE GIVEN BY A BICYCLIST BY THE RIGHT HAND AND ARM EXTENDED HORIZONTALLY TO THE RIGHT.

[] ...Delete
Caps...New Language

JUSTIFICATION

21-604

The existing requirement that a signal of intention to turn be given continuously during at least the last 100 feet before turning imposes no difficulties to operators of vehicles equipped with mechanical and self-cancelling signalling devices. On the other hand, modern multi-speed bicycles require continuous availability of both hands, especially in emergency turning and slowing situations, to shift gears and to apply front and rear brakes. Poor road conditions and sudden changes in traffic patterns increase the cyclist's need for the use of both hands. This, perforce, may require a discontinuance of signal display by hand during the last 100 feet before the turn.

The proposal does not exempt the bicyclist from giving the required signal but does permit an interruption in the display when conditions demand. In fact, Section 21-1206(a)(1) of the Maryland Vehicle Code indicates a requirement that a bicyclist at all times be able to place both hands on the handlebars for full control of the vehicle.

21-606

Maryland Vehicle Law requires that the hand and arm signal for a right turn be given by the left hand and arm extended upward. For drivers of vehicles designed with the operational controls on the left side, the requirement that the signal be given from the left side of the vehicle is, of course, the only practicable one.

Bicycle operators, however, are situated squarely astride their vehicle and are capable of signalling to either side. Moreover, the signal is quite visible to a following vehicle operator regardless of which hand and arm is used. Therefore, it is proposed that bicyclists be given the choice of using the present method of indicating a right turn or extending the right hand and arm.

In effect, this is merely the opposite of the manner of giving the left hand signal. It is logical, instantly understood, and easier to execute. The raising of the center of gravity by lifting the hand and arm above the head may, for some bicyclists, affect vehicle control.

Presently, three States, Pennsylvania, California, and Minnesota permit this proposed method.

COMPARISON OF THE MARYLAND VEHICLE CODE AND
THE UNIFORM VEHICLE CODE

The Bicycle Study Committee made a detailed comparison of the Maryland Vehicle Code with various model ordinances and found that it agrees favorably in almost all categories. A detailed summary was published in the Interim Report. The following condensed summary compares the Maryland Vehicle Code with the Uniform Vehicle Code Model Bicycle Ordinances.

COMPARISON OF MARYLAND VEHICLE CODE
AND
UNIFORM VEHICLE CODE

A. DEFINITIONS

<u>MARYLAND VEHICLE CODE (MVC)</u>	<u>UNIFORM VEHICLE CODE (UVC)</u>	<u>COMMENTS</u>
1) 11-104 - "Bicycle"	1-105	Unlike MVC, the UVC does not recognize the three wheel bicycle (adult tricycle).
2) 11-135 - "Motor Vehicle"	1-134	MVC excludes the moped as a motor vehicle.
3) 11-176 - "Vehicle"	1-184	Both, MVC and UVC, recognize the bicycle as a vehicle.
4) 21-101 - "Controlled Access Highways"	11-313	UVC maintains authority of "local" jurisdictions to prohibit bicycles on certain roadways.
5) 21-1103 - "Driving on Sidewalk"	11-1209 "Bicycles and Human Powered Vehicles on Side-walks"	MVC prohibits riding bicycles on sidewalks unless allowed by local ordinance. UVC allows bicycle use unless prohibited by local ordinance.
6) 21-1205.1		(1) Prohibits bicycles on all controlled access highways except on adjacent bicycle path or way approved by SHA. (2) On a roadway where the posted maximum speed limit is more than 50 MPH.

B. RULES OF THE ROAD

MARYLAND VEHICLE CODE (MVC)

UNIFORM VEHICLE CODE (UVC)

COMMENTS

7) 21-1205.1(b)2

MVC requires hand signals before entering roadway from bike lane or shoulder.

8) 21-1203 - "Riding on Bicycles"

11-1203

The UVC allows the rider to carry a child securely attached to his person in a backpack or sling. MVC requires a permanent seat for each passenger.

9) 21-1204 - "Clinging to Vehicles"

11-1204

Both MVC and UVC prohibit. UVC allows the use of bicycle trailers or semi-trailers.

10) 21-1205 - "Riding on Roadways and in Public Bicycle Area on Highway"

11-1205 "Riding on Roadways or Bike Paths"

MVC requires single file riding on highways (travel lane and shoulder) while UVC allows riding two abreast upon the roadway, but shall not impede the normal and reasonable movement of traffic. On a laned roadway, they shall ride within a single lane. On bikeways, cyclists are not prohibited from riding more than two abreast.

11) 21-1206 - "Carrying Articles"

11-1206

Both MVC and UVC prohibit the carrying of articles; however, MVC requires that two hands be on the handlebars while UVC requires that one hand be on the handlebars. MVC has additional provisions that prohibit tampering with bicycles.

MARYLAND VEHICLE CODE (MVC)UNIFORM VEHICLE CODE (UVC)COMMENTS

12) 21-1207 - "Lamps and other Equipment"

12-702-707

The UVC required from head-light be visible for distance for 500';with MVC must be seen for 1000'.

UVC required reflective material of sufficient size and reflectivity to be visible from both sides for 600'. MVC does not address this point. Under the brake portion the MVC is general which the UVC requires that a bicycle traveling at a speed of 10 MPH must be able to stop within 25 feet on dry clean pavement. MVC requires use of a bell or other audible device which can be heard for a distance of 100 feet. UVC has no such requirement. Both MVC and UVC prohibit sirens and whistles.

13) 21-1208 - "Securing Bicycles to Certain Objects"

11-1210
"Bicycle
Parking"

MVC is more specific on where a bicycle is not allowed to be secured.

14) 21-1209 - "Throwing Objects at Bicyclists"

MVC prohibits the deliberate injury or harm to bicyclists. UVC makes no mention of this.

15) Not Covered in MVC.

11-1211
"Bicycle
Racing"

Addresses bicycle racing, not speed as a special event that needs the approval and compliance of highway authorities.

MARYLAND VEHICLE CODE (MVC)

16) 11-143 - "Owner"

UNIFORM VEHICLE CODE (UVC)

12-708 "Bicycle
Identifying Number"

COMMENTS

UVC says that the bicycle must have a permanent, stamped identifying number stamped on its frame. The MVC has no such requirement. The UVC requirement does not address the need for unique identification number.

17)

12-709 "Inspecting"

UVC permits a uniformed police officer to inspect a bicycle which the officer has reasonable cause to believe is unsafe or not equipped as required by law. MVC has no such provision.

REGISTRATION

The matter of bicycle registration, more than any other topic considered by the Committee, produced the most divergent points of view in both Subcommittee and Committee deliberations. Views ranged from compulsory Statewide bicycle registration, local option State-designed and operated systems, improvement and continuation of the voluntary system, through no involvement on the part of the State in bicycle registration.

The Committee has reached a number of conclusions on this topic; the most important being that a compulsory Statewide system of bicycle registration, though desirable, is not feasible at this time.

The existing Statewide voluntary system of bicycle registration authorized by Section 13-421 of the Maryland Vehicle Law has some serious deficiencies and is not effectively working at this time. The Committee does not believe that this system is a suitable base on which to develop a uniform system of bicycle registration. It lacks those features useful to the authorities and desirable to bicycle owners. The system does not make full use of existing or planned electronic storage and retrieval systems.

The Committee concludes that a system should be developed which will offer compatibility to both voluntary registration programs and to any compulsory registration systems desired by County and local jurisdictions. This indicates a need for a Statewide system to permit uniform entry of data offering data retrieval from terminals throughout the State.

Provisions should be made for the appropriation of sufficient funds for the development of the system and, if appropriate, the acquisition of any additional system hardware and software.

The system, once developed, should be self-supporting and not dependent on maintenance funding. The potential for private enterprise or commercial operation of the system should be considered as an alternative to State, County, or local operation.

The input from citizens, bicycle dealers, and manufacturers or importers should be solicited in the development of any future bicycle registration system.

The Maryland Citizens' Bicycle Study Committee stands ready to work with either legislative committees or State Agencies charged with developing the details of any registration program to be developed.

The Committee recommends:

- 1) That the General Assembly appropriate the necessary funds for the development of a Statewide Uniform Bicycle Registration System, and that the appropriate agency be tasked to complete the system definition and development.
- 2) That the bicycle registration system developed be voluntary, but Counties or local jurisdictions may elect to make the system compulsory within their jurisdiction.
- 3) That the police be given appropriate power to enforce the registration where it is compulsory.
- 4) That once the system is developed, it shall be the model for adoption throughout the State in those local jurisdictions making bicycle registration compulsory. Any local system shall conform to the Statewide model unless they seek and are granted a justifiable waiver by the State Agency responsible for overseeing the system.
- 5) That in developing the system, at least the following minimum points shall be included for consideration.
 - a. The inclusion of some form of proof of ownership in the registration process.
 - b. The requirement that all bicycles sold henceforth in the State be provided with an identifying number.
 - c. An effective period of registration.
 - d. The desirability of the original registration number remaining with the bicycle, regardless of transfer of ownership.
 - e. The need to provide for issuance of duplicate registration stickers without the number changing.
 - f. The desirability of entering name of owner, registry number and bicycle identification to permit instantaneous electronic data retrieval by any of these three entry items. Other items to store and be capable of electronic display might be worthy of consideration such as address of owner, date of birth, and make and type (number of speeds) of bicycle.
 - g. The desirability of using sellers of bicycles in accomplishing registration, be it voluntary or compulsory in those local jurisdictions desiring it.

- h. The desirability of State developed and furnished registration forms available to individuals on a voluntary basis and to local jurisdictions desiring to initiate a compulsory program of registration.
 - i. The determination of a registration fee appropriate to the cost of operating the system vs. the relatively low cost of the bicycle.
 - j. The development of an appropriate fee for transfer of ownership and for duplicate registration stickers.
 - k. The possibility of exempting vehicles classed as bicycles by State law, but which have frames and wheels suitable only for small children and generally used in a relatively restricted neighborhood area.
 - l. The desirability of identifying the sales tax presently used on bicycles as a special form of excise tax and channeling such funds into the appropriate State agency or agencies for use in promoting bicycling throughout the State.
- 6) That the present Statewide registration system be retained until such time that it can be replaced by a new system. That the new system shall consider operation and maintenance of the system by County, local, and private enterprises as well as State operation. The State, however, should monitor the overall system.
- 7) The recently completed and published North Carolina Bicycle Registration Study is, perhaps, the most interesting and useful summary of the problem and alternative solutions the Committee has seen. Information is furnished on the California and Minnesota programs which closely parallel the current recommendations of this Committee. The report also contains a very useful list of State bicycle contacts. The Committee recommends that those involved in developing a program of bicycle registration for this State secure a copy from Curtis B. Yates, Bicycle Coordinator, North Carolina Department of Transportation, Raleigh, North Carolina, 27611.

SECTION II

REVIEW OF LOCAL ORDINANCES AND ADOPTION OF A MODEL ORDINANCE

	<u>Page</u>
Introduction	1
Recommendations	4
Recommended Model Bicycle Ordinance	5
Summary of Written Responses to a Questionnaire Sent to Local Government	8
Appendix	10

INTRODUCTION

The Committee completed the work outlined in its charge and prepared a questionnaire concerning bicycle ordinances and usage. The questionnaire was sent to all the counties and municipalities in Maryland. The Committee tabulated and reviewed the results of the survey. We conclude that the respondents to the survey perceive a need for a comprehensive model ordinance for bicycles. We reviewed several model ordinances and compared them with the state Motor Vehicle Law and with the sample ordinances received from the local jurisdictions. In general, there is uniformity between the existing laws and the models. We conclude that the Uniform Vehicle Code Model Bicycle Ordinance meets the needs of Maryland and should be used as a reference guide by communities in developing their own local ordinances.

Every county and municipality in the state was surveyed for information concerning bicycle ordinances. The Committee tabulated and reviewed the findings of the survey, consulted resources for model ordinances, determined the need for a model ordinance, and promulgated, a suitable model ordinance for statewide application.

QUESTIONNAIRE

A questionnaire was developed (see appendix) and mailed to all counties, cities, and towns in the state. The response to this questionnaire served as the basis for our survey of statewide bicycle ordinance needs. To develop the questionnaire, we used "A Guide and Resource to Writing Bicycle Ordinance" prepared by the Bicycle Committee, School Safety Administration & Supervision Section, School & College Department of the National Safety Council. We also solicited questions from the other subcommittees of the MCBSC. The Maryland Department of Transportation arranged for the printing and mailing of the questionnaire to over 200 county and local officials.

For convenience in tabulating the results of the survey, the Committee divided the state into four regions: Metropolitan Eastern Shore, Western, and Southern. The percentage of offices responding to the questionnaire was as follows:

<u>REGION</u>	<u>RESPONSE</u>
Metropolitan - Counties (6): Anne Arundel, Baltimore, Harford, Howard, Montgomery, Prince George's	100%
Incorporated Cities & Towns (49) including Baltimore City	26%
Eastern Shore Counties (9): Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, Worcester	78%

<u>REGION</u>	<u>RESPONSE</u>
Incorporated Cities & Towns (56)	20%
Western - Counties (5): Allegany, Carroll, Frederick Garrett, Washington	40%
Incorporated Cities & Towns (43)	23%
Southern - Counties (3): Calvert, Charles, St. Mary's	33%
Incorporated Cities & Towns (5)	<u>0%</u>
OVERALL - 16 of 23 Counties	70%
34 of 153 Towns	22%

The Committee wishes to thank the officials in the communities that responded for their contribution of the success of the survey. Respondents were town managers, county executives, law enforcement officers, planning & zoning officials, parks & recreation officials, educators, and administrative personnel. The only areas in the state not represented by either a county or a town response to the questionnaire were Garrett, Somerset, Charles and St. Mary's counties.

DEMOGRAPHICS

Respondents represent municipalities with a population range of less than 500 to 1 million, as shown in the following table.

DISTRIBUTION OF RESPONDENTS BY POPULATION

	Metropolitan	Eastern Shore	Western	Southern	OVERALL
Up to 500	2	2	2		6
between 500 &					
2500 &	3	5	4		12
5000 &	3	2	1		6
10,000 &	2	1	1		4
25,000 &	1	1	1		3
50,000 &	1		1		2
1 Million	1				1

The questionnaire asked the respondents to classify the type of area they represent. Their responses were: urban (36%), suburban (24%), rural residential (27%), and rural (12%). Based upon the

distribution of the questionnaire returns, we believe that this survey is representative of statewide attitudes of government officials toward bicycle ordinances and related matters at the county and local levels.

SUMMARY STATISTICS

From the individual questionnaire responses, the Committee developed summary statistics for both county and local government (figure). Of the 22 questions relating specifically to bicycle ordinances, it is significant that every one was perceived by at least one or more respondents as representing an item needing an ordinance in their jurisdiction. Also of interest is the fact that many of the localities already have ordinances dealing with bicycle matters. Statewide, 33% of the towns perceive a need for an ordinance requiring cyclists to display a license plate or registration sticker, 33% already have such an ordinance, and 33% feel it is not needed. Other items ranking high (30%) on the needs list for towns are ordinances dealing with compulsory registration, inspection, requirements for safety equipment, and transfer of ownership. At the county level, 44% of the respondents perceive a need for ordinances dealing with transfer of ownership and report of sale of bicycles. County respondents (36%) want ordinances dealing with inspection, abandoned bikes, and compilation of accident statistics. Items that the town respondents (88%) perceive as not requiring ordinances are requirements on rental bikes and conditions for organized racing events. The county respondents (75%) perceive as not needed ordinances dealing with compulsory registration and parking restrictions. Ordinances which apply traffic rules need to cyclists are already in effect in 45% of the towns responding and 38% of the counties. The survey responses clearly show the perceived need for ordinances dealing with a broad spectrum of bicycle related matters throughout the state.

ADDITIONAL COMMENTS RECEIVED

The survey respondents were asked to add any additional comments on ordinances that were not included in the questionnaire. These comments are summarized below:

Metropolitan Cities

- Front battery light and rear reflector at night
- Riding on sidewalks prohibited
- County rules apply

Eastern Shore

- General Assembly would need to authorize bicycle ordinances.
- Have no county ordinances. Incorporated towns have their own.
- Damaging license tag & registration card

Western Cities

- Small town. Only cyclists are children.
- Bicycles can be inspected anytime Police Officer feels it is necessary.

ENFORCEMENT

The respondents indicate that in 72% of the cities and towns bicycle ordinances are enforced, and in 28% they are not. They gave no reasons. Eighty-three percent indicate that cyclists have full access to all public rights of way, and 17% indicate that they do not. Police officers receive training in traffic laws regulating bicycles in 87% of the jurisdictions, and in 13% they do not. Smooth surfaced shoulders are provided in critical traffic areas in 23% of the jurisdictions and are not provided in 77% of the jurisdictions. Many interesting comments were received concerning bicycle usage. (See Section II, page 8-9)

RECOMMENDATIONS

The survey responses clearly show the perceived need for ordinances dealing with a broad spectrum of bicycle related matters throughout the State. To meet this need, we recommend a model bicycle ordinance to be used as a Statewide guide for the development of bicycle related ordinances by local communities. We feel that a model ordinance will tend to provide uniformity of laws without pre-empting the right of the local community to adopt legislation that meets its unique needs.

The subcommittee reviewed model ordinances developed by the National Safety Council, the California Statewide Bicycle Committee, and the National Committee on Uniform Traffic Laws and Ordinances. A detailed comparison of these model ordinances and the Maryland Vehicle Law was included in the MCBSC Interim Report. We found only six areas treated by one or more of the Bicycle Ordinances that are not treated by the Maryland Vehicle Law. These are licensing, regulations, parking restrictions, regulations for organized racing, accident reporting, and special urban considerations (such as exiting alley ways). The survey results indicate a perceived need for ordinances dealing with these items. It is the judgment of the Committee that the Model Bicycle Ordinance of NCUTLO best meets the needs of Maryland. The ordinance is generally consistent with the Maryland Vehicle Law, and its format is suited for partial use if desired. We recommend that it be used Statewide as a guide for the development of bicycle ordinances.

The following "Model Bicycle Ordinance" is from Article XII of the Modal Traffic Ordinance, (NCUTLO):

MODEL BICYCLE ORDINANCE*

For municipalities to implement or supplement provisions in the State Uniform Vehicle Code.

ARTICLE XII. REGULATIONS FOR BICYCLES

EFFECT OF REGULATIONS

- (a) It is a misdemeanor for any person to perform any act forbidden or fail to perform any act required in this Article.
- (b) The parent of any child and the guardian or any ward shall not authorize or knowingly permit any such child or ward to violate any of the provisions of this ordinance.
- (c) These regulations, applicable to bicycles, shall apply whenever a bicycle is operated upon any highway or upon any path set aside for the exclusive use of bicycles, subject to those exceptions stated herein.

LICENSE REQUIRED

No person who resides within this city shall ride or propel a bicycle on any street or upon any public path set aside for the exclusive use of bicycles unless such bicycle has been licensed and a license plate is attached thereto as provided herein.

LICENSE APPLICATION

Application for a bicycle license and license plate shall be made upon a form provided by the city and shall be made to the Chief of Police. An annual license fee of _____ shall be paid to the city before each license or renewal thereof is granted.

ISSUANCE OF LICENSE

- (a) The Chief of Police, upon receiving proper application therefore, is authorized to issue a bicycle license which shall be effective until (the next succeeding first day of July).
- (b) The Chief of Police shall not issue a license for any bicycle when he knows or has reasonable grounds to believe that the applicant is not the owner of or entitled to the possession of such bicycle.

*Article XII, Model Traffic Ordinance, NCUTLO

(c) The Chief of Police shall keep a record of the number of each license, the date issued, the name and address of the person to whom issued, and the number on the frame of the bicycle for which issued, and a record of all bicycle license fees collected by him.

ATTACHMENT OF LICENSE PLATE

(a) The Chief of Police, upon issuing a bicycle license, shall also issue a license plate bearing the license number assigned to the bicycle, the name of the city, and (the calendar year for which issued (the expiration date thereof).

(b) The Chief of Police shall cause such license plate to be firmly attached to the rear mudguard or frame of the bicycle for which issued in such position as to be plainly visible from the rear.

(c) No person shall remove a license plate from a bicycle during the period for which issued except upon a transfer of ownership or in the event the bicycle is dismantled and no longer operated upon any street in this city.

INSPECTION OF BICYCLES

The Chief of Police, or an officer assigned such responsibility, shall inspect each bicycle before licensing the same and shall refuse a license for any bicycle which he determines is in unsafe mechanical condition.

RENEWAL OF LICENSE

Upon the expiration of any bicycle license, the same may be renewed upon application and payment of the same fee as upon an original application.

TRANSFER OF OWNERSHIP

Upon the sale or other transfer of a licensed bicycle, the licensee shall remove the license plate and shall either surrender the same to the Chief of Police or may, upon proper application but without payment of additional fee, have said plate assigned to another bicycle owned by the applicant.

RENTAL AGENCIES

A rental agency shall not rent or offer any bicycle for rent unless the bicycle is licensed and a license plate is attached thereto as provided herein and such bicycle is equipped with the lamps and other equipment required by the State vehicle code.

TRAFFIC ORDINANCES APPLY TO PERSONS RIDING BICYCLES

Every person riding a bicycle upon a roadway shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of a vehicle by this ordinance, except as to special regulations in this Article and except as to those provisions of this ordinance which, by their nature, can have no application.

ATTACHING BICYCLES TO POLES

Any person may park near, and secure a bicycle to, any publicly owned pole or post for a period of not more than twelve consecutive hours, unless an official traffic-control device or any applicable law or ordinance prohibits parking or securing bicycles at that location. No bicycle shall be secured in any manner so as to impede the normal and reasonable movement of pedestrian or other traffic.

PENALTIES

Every person convicted of a violation of any provision of this Article shall be punished by a fine of not more than dollars or by removal and detention of the license plate from such person's bicycle for a period not to exceed _____ days, or by impounding of such person's bicycle for a period not to exceed _____ days or by any combination thereof.

SUMMARY OF WRITTEN RESPONSES

METROPOLITAN COUNTIES

- Training of parents should be emphasized
- Bicycles used mostly for recreation in this area

Cities

- More funds for bike trails needed
- Bicycles used primarily by youngsters
- Cyclist lane needed on main state highways
- Bicycles encouraged but not practical due to our narrow streets
- If we could get cooperation from the County, we would gladly have any County laws adopted for enforcement by County police that were necessary. A full scale program has to be instituted according to the appropriate level, i.e., state registration, county safety inspections, municipal & county enforcement.

EASTERN SHORE

- Bicycles used primarily by children, some use by adults for recreation. Used by many adults, teenagers & children (number unknown) as principal means of transportation. (Most are lower income & cannot afford auto or for some reason cannot drive).
- Bicycle use not promoted through any official action.
- Very poor safety habits, general confusion among both cyclists and motorists concerning the role of bicycles as vehicles on public roads.

Cities

- State control of bicycles necessary due to the transient nature of the vehicle.
- Need for consideration of state transportation code that covers bicycle operation, equipment, parking and violations.
- Need for requiring all persons riding bicycles to follow the same rules as motor vehicle operators (including juveniles).
- "For a small town, we have a great deal of bicycle traffic. There is a very popular bike path that goes right through...."

WESTERN COUNTIES

- Bicycle use increasing. Marked routes with added safety features would generate even more usage.
- Need for more emphasis on bicycle safety training in schools and enforcement of local ordinances.

Cities

- "We have no significant problem, other than the amount of thefts which is prevalent throughout the country."
- "I feel the bicyclists in this town are very alert and the motorists on the streets are aware of bicyclists. To my knowledge there have been no accidents in town involving a bicycle."
- "Accidents involving bicycles are very low."

These thoughtful comments by our respondents express many of the same concerns that have been discussed by the MCBSC throughout the past year.

APPENDIX

QUESTIONNAIRE: MARYLAND BICYCLE STUDY COMMITTEE

Subcommittee to Review Local Ordinances and Draft a Model Ordinance

Please respond to all questions. You are encouraged to duplicate this questionnaire and submit multiple responses from your jurisdiction or interested individuals. Thank you for your participation in this study.

1. Do you currently have local ordinances in your jurisdiction relating to any of the following items?

City and Town Totals
33 Respondants

	Rank	Yes, we have an ordinance	Rank	No, we don't need an ordinance	Rank	No, we don't have an ordinance but one is needed
a) Compulsory registration or licensing of bicycles.	3	33%	13	36%	2	30%
b) Voluntary registration or licensing of bicycles.	10	11%	4	78%	11	11%
c) Display of license plate or registration sticker.	3	33%	14	33%	1	33%
d) Requirement for a bicyclist identification card.	9	12%	7	66%	6	22%
e) Inspection of bicycles for proper equipment or unsafe conditions.	5	27%	12	42%	2	30%
f) Transfer of ownership of a licensed bicycle.	7	21%	10	48%	2	30%
g) Reporting sale of new or second-hand bicycles by agencies or dealer.	12	6%	5	73%	7	21%
h) Requirements on bicycles supplied by rental agencies.	13	0%	1	88%	10	12%
i) Responsibilities of non-resident bicyclists.	12	6%	6	67%	3	27%
j) Disposition of abandoned and unidentified bicycles.	6	24%	9	52%	5	24%
k) Definition of claims procedures for loss or damage to bicycles.	11	9%	5	73%	8	18%
l) Applicability of traffic rules and traffic control devices to bicyclists.	2	45%	15	30%	5	24%
m) Restriction of access to public rights of way.	4	30%	11	45%	5	24%
n) Limitation on carrying extra passengers or articles	4	30%	12	42%	3	27%
o) Specification of bicyclist behavior when stopping, turning and signaling.	3	33%	11	45%	7	21%
p) Restrictions on parking in public and quasi-public areas	8	16%	8	59%	4	25%
q) Obligation of commercial establishments to provide bicycle storage meeting specified standards.	13	0%	2	82%	8	18%
r) Definition of improper or trick riding.	3	33%	12	42%	5	24%
s) Conditions for organized bicycle racing, speed or endurance contests.	13	0%	1	88%	10	12%
t) Requirements for safety equipment and minimum performance standards.	6	24%	11	45%	2	30%
u) Definition of penalties for failure to comply with existing ordinances.	1	52%	16	21%	3	27%
v) Compilation of accident statistics specifically for bicyclists.	12	6%	3	79%	9	15%

2. Please add other items not included above.

If possible, please supply us with copies of any ordinances in effect relating to bicycle use in your jurisdiction.

3. Are bicycle ordinances enforced? If not, why?

4. Do cyclists legally and practically have full access to all public rights of way? If access is forbidden by law in certain areas, are there alternate facilities providing access to properties along such roads?

5. What education do your children receive in traffic safety, especially as it relates to bicycles? Is there any formal training by the schools, police department or other public agency?

6. Do your police officers receive training in traffic laws regulating bicycles? If so, what is the extent of the training?

7. Do you provide smooth surfaced shoulders for bicyclist and pedestrian safety in critical traffic areas?

QUESTIONNAIRE: MARYLAND BICYCLE STUDY COMMITTEE

Subcommittee to Review Local Ordinances and Draft a Model Ordinance

Please respond to all questions. You are encouraged to duplicate this questionnaire and submit multiple responses from your jurisdiction or interested individuals. Thank you for your participation in this study.

1. Do you currently have local ordinances in your jurisdiction relating to any of the following items?

County Totals
16 Respondants

	Rank	Yes, we have an ordinance	Rank	No, we don't need an ordinance	Rank	No, we don't have an ordinance but one is needed
a) Compulsory registration or licensing of bicycles.	7	6%	1	75%	6	19%
b) Voluntary registration or licensing of bicycles.	5	13%	4	56%	4	31%
c) Display of license plate or registration sticker.	4	19%	4	56%	5	25%
d) Requirement for a bicyclist identification card.	8	0%	2	69%	4	31%
e) Inspection of bicycles for proper equipment or unsafe conditions.	7	6%	4	56%	2	38%
f) Transfer of ownership of a licensed bicycle.	8	0%	4	56%	1	44%
g) Reporting sale of new or second-hand bicycles by agencies or dealer.	8	0%	4	56%	1	44%
h) Requirements on bicycles supplied by rental agencies.	7	6%	2	69%	5	25%
i) Responsibilities of non-resident bicyclists.	7	6%	2	69%	5	25%
j) Disposition of abandoned and unidentified bicycles.	6	12%	5	50%	2	38%
k) Definition of claims procedures for loss or damage to bicycles.	6	12%	3	63%	5	25%
l) Applicability of traffic rules and traffic control devices to bicyclists.	1	38%	7	25%	3	37%
m) Restriction of access to public rights of way.	2	31%	6	44%	5	25%
n) Limitation on carrying extra passengers or articles	4	19%	4	56%	5	25%
o) Specification of bicyclist behavior when stopping, turning and signaling.	4	19%	6	44%	3	37%
p) Restrictions on parking in public and quasi-public areas	7	6%	1	75%	6	19%
q) Obligation of commercial establishments to provide bicycle storage meeting specified standards.	7	6%	2	69%	5	25%
r) Definition of improper or trick riding.	4	19%	5	50%	4	31%
s) Conditions for organized bicycle racing, speed or endurance contests.	5	13%	4	56%	4	31%
t) Requirements for safety equipment and minimum performance standards.	3	25%	6	44%	4	51%
u) Definition of penalties for failure to comply with existing ordinances.	4	19%	5	50%	4	31%
v) Compilation of accident statistics specifically for bicyclists.	7	6%	4	56%	2	38%

2. Please add other items not included above.

If possible, please supply us with copies of any ordinances in effect relating to bicycle use in your jurisdiction.

3. Are bicycle ordinances enforced? If not, why?

4. Do cyclists legally and practically have full access to all public rights of way? If access is forbidden by law in certain areas, are there alternate facilities providing access to properties along such roads?

5. What education do your children receive in traffic safety, especially as it relates to bicycles? Is there any formal training by the schools, police department or other public agency?

6. Do your police officers receive training in traffic laws regulating bicycles? If so, what is the extent of the training?

7. Do you provide smooth surfaced shoulders for bicyclist and pedestrian safety in critical traffic areas?

SECTION III

REVIEW OF PLANNING, DESIGN, CONSTRUCTION, OPERATIONS AND MAINTENANCE OF BICYCLE FACILITIES

	<u>Page</u>
Introduction	1
General Conclusions	3
Specific Conclusions	4
Control of Access as it Applies to Bicycles	9
Policies Recommended by the Committee for Adoption by State/Local Agencies	11
Provisions for Bicycles at Mass Transit Stations	14
Appendix	17

INTRODUCTION

It is the "HOW" involved in facility development, not the "IF" where most of the problems lie. Bicycle facility development is commonly thought of as the effort undertaken to develop a bikeway system -- a system of bike paths which would almost totally satisfy the travel needs of bicyclists. In fact, no such system could really provide for the vast majority of bicycle travel. Bicyclists, even more than motorists, seek the most direct routes to where they want to go, particularly those who use the bicycle for more than casual recreation. Because of the diversity of needs of bicyclists, and the fact that many trips are quite short, a bikeway system could not provide for most bicycle travel unless it were of the same detail as the street system. For this reason, roads, together with bikeways, must serve as the bicycle transit system to provide for the travel needs of bicyclists.¹

Bicycles and mopeds are now nationally recognized by the federal government, most state governments and, hence, by the courts as legitimate vehicles and entitled to equal access (use) of our roadways as any other vehicle used extensively for basic transportation. The United State Congress has recently reinforced this point with the passage of the bicycle provisions of the Federal Highway Act. It is now illegal, under any future federally-funded project, to deny non-motorized transportation access unless a reasonable alternative exists. We must no longer think of the bicycle as a toy and begin integrating them into our transportation system on equal rights with other modes of transportation. We can ill afford to continue idolizing the automobile as the supreme mode of transportation.

Consideration should not be limited to the road system and "bikeway improvements". The entire bicycling environment must be considered. This includes adequate parking facilities for the various types of trip purposes, intermodal considerations (fringe parking, bikes on boats, bikes on trains, bikes on buses), mapping projects, and making the public aware of the various activities.

Compared to many states, Maryland is progressive in many areas of bicycle facility improvements and safety education. More than 485 miles of bikeways have been built by federal, state and local governments within Maryland's borders. Studies and plans for bicycle transportation have been completed in various formats by Baltimore, Harford, Anne Arundel, Montgomery, Prince Georges and Washington counties, as well as Baltimore City and Columbia. Some excellent bicycle safety programs are available in this state, thanks to the efforts of Donald LaFond of the Maryland Department of Education and others.

^{1/} Planning and Design Criteria for Bikeways in California, State of California, Department of Transportation, June, 1978

Unfortunately the available programs are neither consistent nor comprehensive in approach. Within this section both specific and general recommendations are made in an effort to guide the way to a comprehensive program that can be adopted by the Maryland Department of Transportation as well as the various subdivisions. It is important that the state work closely with the counties and municipalities to ensure the success of this program.

GENERAL CONCLUSIONS

After a thorough review of the existing bicycle transportation problem within the state, and the state-of-the-art of facility development throughout the country, some general conclusions can be made:

1. Bicycle Transportation management in Maryland is at best disjointed, and in some areas, nonexistent. There is little coordination among agencies of government and no overall statewide plan that addresses the bicycle.

2. Multi-modal bicycle planning, design and implementation is all but nonexistent. In order for bicycles to be integrated into the overall Transportation System, consideration of its use is required at toll facilities, Maryland Port Administration excursion boats, inter-modal parking locations, bus and transit use, as well as highway improvements.

3. In general, literature on facilities design is somewhat dated. The latest planning and design materials must be used to provide adequate facilities. Bikeways are one element of an effort to improve bicycling safety and convenience--either to help accommodate motor vehicle and bicycle traffic on shared roadways, or to complement the highway system to meet needs not adequately addressed at this time. There are a number of other strategies outlined in this report.

Off-street bikeways in exclusive corridors can be effective in providing new recreational opportunities, or in some instances, desirable commuter routes. They can also be used to close gaps where barriers exist to bicycle travel (e.g., river crossings). On-street bikeways can serve to enhance safety and convenience, especially if other commitments are made in conjunction with establishment of bikeways, such as: elimination of parking or increasing roadway width; elimination of surface hazards, frequent street sweeping; establishing intersection priority on the bike route street as compared with the majority of cross-streets; and installation of bicycle-sensitive loop detectors at signalized intersections.

In the transportation planning process, master plans should be developed to respond to all the needs of bicyclists. Master plans, to be effective, must be based upon a comprehensive study of bicyclists' needs. This requires that bicyclists (both recreational and utility) be involved in the identification of problems and the development of solutions. The effort involves a recognition that bikeways are only one element of the actions required.

Master plans should include actions necessary to enhance safety and convenience for bicyclists using the road system proper, and the support systems necessary to make bicycle travel for utility purposes feasible (e.g., secure bicycle parking, transit interface, etc.).

The decision to develop bicycle facilities should be made with the knowledge that they are not the solution to all bicycle-related problems. Many of the common problems are related to improper bicyclist and motorist behavior and can be corrected only through effective education and enforcement programs. As experience has shown, a poorly conceived and poorly designed facility can be counterproductive to education and enforcement programs, and will frequently not be used by bicyclists.¹

SPECIFIC CONCLUSIONS

1. Project Management

Establish an Office of Bicycling Affairs to direct all activities related to bicycling in Maryland. Its functions will be in the following categories:

A. Planning

- . Goals and priorities.
- . Propose and initiate State programs.
- . Recommend funding levels.
- . Propose and review legislation.

B. Coordination among State agencies.

- . Plan and assign projects.
- . Avoid conflicting programs.
- . Initiate joint programs.
- . Clearinghouse for agency and local applications for State and Federal grants.

C. Assistance to local jurisdictions.

- . Information and referral.
- . Coordination with State programs.
- . Publish and distribute a newsletter.

A committee of citizens and agency representatives will be established and will meet at least four times a year with the Director of the Office of Bicycling Affairs to advise and critique the activities of the office.

2. Planning

Bicycle planning is more appropriately defined as the effort undertaken to provide for safe and efficient

bicycle travel.

It is with this in mind that the following be undertaken:

Establish a comprehensive statewide program of facilities, education, information, and safety. Devise 5, 10, 20-year goals. Work with community representatives as well as public agency personnel. Institute an inventory of all roads in the state in order to plan, and publish maps showing locations and kinds of bicycle facilities, existing and future. Establish priorities based on population densities, urban or rural location and continuity of routes. Initiate and monitor experimental programs such as bicycles on buses, bicycles on trains, bicycles on boats (such as the Port Welcome), and bicycles in state parks. Work with county and city governments to evolve programs based on local needs. Special emphasis should be placed on programs and facilities in large urban areas to aid state goals of reducing dependence on the automobile, because of its air pollution, traffic congestion and parking problems. Work with sub-division developers in suburban areas to connect discontinuous roads with bikepaths.

Because bicycling has experienced an enormous upsurge during the last 15 years, a number of guidelines, suggestions, rules and regulations concerning the design of facilities have been published by various local and national organizations. The bibliography is large and requires study and evaluation to choose those portions of the various recommendations best suited for Maryland.

3. Design

A. Class I Bikeways (separate facilities, bicycle paths)

This type of bicycle facility is perhaps the most well-known and certainly the most controversial construction option. Most of the existing bicycle paths are poorly planned and engineered with regular maintenance almost non-existent. Even so, studies have shown that ridership of these facilities are usually higher, user age group and experience more diverse, and responses on ridership safety more positive than on other types of bicycle facilities.

Whenever a situation arises where a bicycle path is being considered as a bicycle facility option, certain considerations must be kept in mind.

1. Who is asking for this path? Is it a group or community association that really want an improved play area or a sidewalk and find that by requesting a bike path, it is easier to get

what they want? Or, is it a motorist group that simply want bicycles off "their roadway."

2. Who are you designing this facility for? If it is designed for the 4 miles per hour child cyclist, the adults will ignore it and use the roadway. A 20 miles per hour minimum design speed is essential to encourage adult usership.
3. If joggers, dog walkers and pedestrians are to use it, have adequate widths and clearances as well as surface texture differences, been included for this use?
4. Is there an adequate maintenance force and the commitment to use this force in regular maintenance of the facility?
5. Can another type of facility be just as adequate?

While Class I bicycle paths have the potential for the greatest encouragement of bicycling, a serious commitment has to be made for these facilities to be successful. This is obvious to those who have visited Stevenage, England and observed the Class I bikeway system throughout this city, with grade separated inter-sections and separate walking paths. A cyclist can travel from one side of the city to another and never cross a roadway or conflict with pedestrian traffic. This type of bicycle transportation planning and design exemplify what can be done if the commitment exists at all governmental levels, working together to foster the bicycle as a serious transportation mode. Without it, this type of facility can turn out to be more dangerous to the user than if nothing was built.

B. Wide Curb Lanes

One of the simplest and most effective methods of helping cyclists is through the creation of a Wide Curb Lane.

On multi-lane roads, the outside or curb lane is made wider (14 feet) than the other lanes (10 to 12 feet) by restriping. This allows a car and a cyclist to use the curb lane simultaneously without moving into the adjacent lane. A recently completed study in Baltimore County, where a number of roads have been restriped to create Wide Curb Lanes, has revealed that such a configuration helps entering and exiting motorists and pedestrians as well as cyclists. The Wide Curb Lane con-

cept can be applied to two-lane roads as well by simply making each lane wider when repairing or resurfacing is undertaken.

C. Improved (Smooth) Shoulders

This will have a similar effect as Wide Curb Lanes because such shoulders will provide what amounts to a separate bikeway. Maintenance of shoulders is particularly important because as debris accumulates shoulder facilities become unusable. (The normal sweeping action of motor vehicles is lacking.)

D. Bike-safe Storm Grates

Most conventional storm water inlets are traps for bicycle wheels. The Maryland Department of Transportation has begun an excellent program of replacing all dangerous grates on state roads. This program should be continued and expanded to include all such grates in the state. Legislation should be created to prohibit the use of bike-trap grates in the construction or reconstruction of all public and private roads.

E. Auto Parking Restrictions

Parking should be restricted near intersections to increase visibility for entering bicycles, pedestrians and motorists.

4. New Facilities

A. Utility Right of Way

Rights of way such as electric, sewer, gas, etc. should be identified as possible future bikeway sites. Coordination among the various government agencies is essential in the planning and implementation of bike facilities at these locations. After the initial planning effort, construction should coincide with the utility construction or modification to save costs.

B. Railroad and Other Transit Abandoned Right of Way

The State should acquire all abandoned RR R/Ws without delay. These roadbeds offer precious linear recreation possibilities for the hiker/biker which, if lost, will be impossible to duplicate. Current law allows the State to purchase R/Ws only if needed for transportation. The committee urges the legislature to acquire them for future recreational use even though immediate use

for transportation purposes may not be required. Railroad bridges and underpasses are particularly important to retain because they usually provide the only routes across barriers and would be extremely expensive to duplicate. Other similar right of way, such as old trolley lines, should also be acquired. Planning for these should be incorporated in the master plans.

C. Demonstrations

Extend the existing state program of experimental or demonstration projects to learn how to solve some of the more difficult problems for cyclists, such as bridge access, bridge width, underpasses, discontinuous routes, intersection problems, bus lane conflicts, improper signing and mapping, traffic control devices and evaluation of bike route road surfaces.

D. Parking

Adequate, secure bicycle storage is essential to the commuter cyclist as well as to those with other trip purposes. In 1976 11,695 bicycles were stolen in the state. By 1977 the figure increased to 12,269 bicycles at a cost of \$1,161,945 to the state's consumers. These figures are expected to rise in 1978. Because fear of theft or vandalism is a strong deterrent to bicyclists as well as to potential bicyclists, the state should initiate a program of providing secure parking facilities at state buildings. Ordinances should be enacted to require all new buildings (other than residences of less than eight units) to provide parking. Parking is particularly important in urban areas at bus stops and parking garages. Park-and-ride facilities should include bicycle lockers.

E. Special Emphasis

Emphasis should be placed on encouraging a significantly greater amount of destination trips. Work trips and school trips are particularly amenable to increased bicycle uses. To this end, information, education, bike routes and bike parking should be planned in selected areas. "Before" and "after" studies should be conducted to determine effectiveness.

F. Maintenance

Maintenance is at least as important as planning, design and construction. A broken locker is unusable, vandalized signs are unreadable, and a bikeway covered with stones and debris will be

ignored in favor of the roadway. Without an adequate maintenance program, the best planned and designed efforts will be ignored by the cycling public and, as such, will be a waste of the initial investments.

Each agency and each governmental subdivision should be responsible for the operation and maintenance of facilities under its jurisdiction. Overall planning and monitoring of operations and maintenance will be the responsibility of the Office of Bicycling Affairs.

G. Interstate Highways

A further situation that must be addressed within this problem is that of highway up-grading during reconstruction. Where a highway currently allows bicycle use, its reconstruction may be for the purpose of constructing a controlled access highway. This is true where, in order to hold costs down, an Interstate will use an existing bridge. The existing highway will then end at the Interstate and will begin again from the Interstate on the other side of the bridge. Cyclists will then be forced to travel miles out of their way to find a bridge they can legally use to cross the same river.

In a recent report (the only one yet available on the subject) for the California Department of Transportation, where 550 miles of selected freeways have been open for bicycle use, only 15 bicycle/motor vehicle accidents were reported in the last four (4) years. Since the issuance of that report, another 400+ miles of the existing freeway system was opened for bicycle use.

CONTROL OF ACCESS AS IT APPLIES TO BICYCLES

Introduction

One major problem that went unresolved was the issue of access control as applied to bicycle use. State law prohibits certain roadway shoulders from bicycle use. As stated in Section 21-1205(1)(a) of the Maryland Vehicle Law 1977: "Notwithstanding any other provision of this title, a person may not ride a bicycle on any controlled access highway, except on an adjacent bicycle path or way approved by the State Highway Administration". Controlled access highway is defined in Section 21-101 as "...a highway or roadway to or from

which persons, including the owners or occupants of abutting lands, have no right of access except at the points and in the manner determined by the public authority with jurisdiction over the highway roadway."

The problem with the use of this definition to prohibit bicycle use of certain highways is the failure of this definition to distinguish between full control, partial control, and limited access, all which could be said to be 'controlled access'. The original intent of the law was to ensure that bicycles could not be used on Interstate highways such as I-95, I-70, I-695, etc. Most cyclists agree (though not all by any means) that bicycles should be banned from Interstates which characteristically have grade-separated intersections. There are many partially controlled highways with 10' wide shoulders and signal or stop sign-controlled intersections. These are parallel to uncontrolled highways which have narrow lanes, poor sight distances and no shoulders. In this case, which would really be the safest situation for the cyclist to be in? Grades of the partially or fully controlled access highways are generally less than the parallel, older, uncontrolled local roads. In the long run, considering the small percentage of all bicycle accidents that are represented by the 'overtaking' accident, the controlled access highway with wide, smooth shoulders, excellent sight distances, fewer intersections and smaller grades may be safer for long distance cyclists than their uncontrolled, local counterparts.

A further problem is created with the use of access control to prohibit bicycles. The standard State highway map does not distinguish between access control types or specifically identify controlled access highways at all. Only fully controlled access highways are distinguished. There is no way for a cyclist to know, either by signing, striping, or any available map, which road shoulder is off-limits to him. Only the Interstates are signed to prohibit bicycles, and then only at interchanges. Fully-controlled access roadways with at-grade intersections do not have such posted signs. This puts the burden on the cyclist where the cyclist has no adequate resource to find out this information. Would it not be more reasonable to prohibit bicycles on Interstates only, as identified by green on the official State highway map?

Rather than use "access control" as the criteria for cyclist prohibition from certain highways; a combination of roadway conditions, traffic volumes, turning movements, etc., may be a more realistic formula for bicycle consideration. A recent report completed by the California Department of Transportation (where over 550 miles of "freeways" have been open for bicycle use) recommended increased use of freeway shoulders for bicycle travel; the use of highway traffic data and geometrics in freeway selection

criteria, and a realistic consideration of alternate routes when considering bicycle use of freeway shoulders. Subsequent to the issuance of the report, an additional 400+ miles of freeways were opened to bicyclists. It should be noted that between 1973 and 1976 only 15 accidents occurred on freeways or on-ramps being used by both automobiles and bicycles.

The issue of access control not only affects cyclists on existing roads, but also on future highway projects that upgrade existing highways from a non-controlled access status to some form of access control. This is usually done to conserve costs, since right-of-way purchase is lessened to some degree as well as other factors. The problem faced by cyclists is exclusion from a route that they have been using with no alternatives available, in some cases, to complete the journey.

It should be noted that the Federal Highway Administration is now recognizing the problem. A recent change to the Federal Aid guidelines indicate (in Section 141(N) of Title 23 of the United States Code), "The Secretary shall not approve any project under this title that will result in the severance or restriction of an existing major route for non-motorized transportation traffic and light motorcycles, unless such project provides a reasonable alternative route or such a route exists."

The Committee urges the Maryland Department of Transportation to reconsider their position on bicycle use of controlled access highways, in order that existing conditions can be improved for Maryland cyclists.

POLICIES RECOMMENDED BY THE COMMITTEE, FOR ADOPTION BY THE
MARYLAND DEPARTMENT OF TRANSPORTATION, ITS MODAL
ADMINISTRATIONS, AND OTHER MARYLAND DEPARTMENTS AS INDICATED

DEFINITION OF BIKEWAY:

It is recommended that the State adopt the following FHWA definition:

Bikeway (Bicycle Route, Bicycle Way) "Any road, path or way, which in some manner is specifically designed as being opened to bicycle travel, regardless of whether such facilities are designed for the exclusive use of bicycles or to be shared by other transportation modes."

DESIGN STANDARD FOR BICYCLE FACILITIES:

The Maryland Department of Transportation, Department of Natural Resources, Department of General Services, and other State agencies adopt the "A Bikeway Criteria Digest" and "Planning and

Design Criteria for Bikeways in California" as the base manuals for planning location, design and construction of bicycle facilities. Where a conflict arises between the two (2) publications, the Planning and Design Criteria for Bikeways in California shall take precedence. The Bicycling Affairs Coordinator, working with the Citizens Bicycle Committee and appropriate Federal officials, should emphasize the development of the new minimum design standards for both bicycle and mopeds. To reduce the potential liability problem, any facility not meeting the minimum standards should not be marked as a bike route.

BASIC ROADWAY IMPROVEMENTS FOR BICYCLE USE:

1. On all new construction and reconstruction projects let for bids after July 1, 1979 by the State Highway Administration, where these projects are closed section (curb and gutter), where bicycle use is expected to be permitted, and where bikeway construction is not part of the project, the outside lane should be paved to a 13' width not including the one foot gutter pan. The width of this lane, including gutter pan, following striping, should be 14 feet. The Maryland State Highway Administration should encourage local jurisdictions to follow this practice, especially where local and State roads adjoin.
2. On all new construction and reconstruction projects let for bid after July 1, 1979 by the State Highway Administration, where these projects are open section (no curb or gutter), where bicycle use is expected, where bikeway construction is not part of the project, and where adequate right-of-way exists, a minimum of 4' wide, smooth surface shoulders should be included as part of the standard highway section. All bridges and culverts that meet the above criteria should carry the 4' minimum width shoulders across the structure. The Maryland State Highway Administration should encourage local jurisdiction to follow this practice, especially where local and State roads adjoin.
3. On all highways where bicycles are permitted, a program of storm drain grate replacement must be undertaken to eliminate existing storm drain grates unsafe for bicycle crossing. On all new construction and reconstruction projects, "bicycle safe" grates must be used. The Maryland State Highway Administration should encourage local jurisdictions to follow this practice.

CONSIDERATION FOR BICYCLES IN HIGHWAY PROJECTS:

Consideration for bicycle use must be included in all highway projects. Reasons for non-provision shall be reported to the Office of Bicycling Affairs on a project by project basis.

DEVELOPMENT OF A STATEWIDE BICYCLE MAP:

Due to the costs, and time required to complete the above mentioned tasks, the most effective, low cost, and short term tool that can be developed for the bicycling community is the bike map. The Maryland Department of Transportation (as the lead agency), along with the assistance of The Office of Tourism, Department of General Services and other Departments, as necessary, develop a Statewide bicycle map and that the following be considered in its development:

- a. Cartographic and other services be contracted as needed to provide for a complete, accurate, and legible product.
- b. That a formal review process be set up (to cover all stages of this project) and include the proposed Office of Bicycling Affairs and citizen members.
- c. Investigate and identify all roads in Maryland, rating them for preferred bicycle use. This is to be done by developing criteria and by assigning a suitability point value. The assessment would be based on roadway geometrics, traffic volume, points of interest, connectivity scenic quality, and other data as identified.
- d. That a system of signing be developed for the selected network to identify routes and destinations for directional purposes.
- e. Every effort should be made to include local cycling clubs and organizations in this effort.
- f. The completed project should also include the location of (where possible) camp sites, improved bicycle parking, points of interest, bicycle shops and repair locations, areas of restricted usage, AYH locations, etc.

HIGHWAY SHOULDER IMPROVEMENTS:

The State Highway Administration and its counterparts within the local jurisdictions initiate a program to smooth-surface existing double-surfaced treated highway shoulders. Double-surface treatment should not be used on any new construction, reconstruction or maintenance projects where bicycle use is permitted.

SIDEWALK BIKEWAYS:

Signed sidewalk bikeways should not be considered as a viable alternative to other formal bikeway or highway improvement designs. Their construction should not be continued. Where a formal sidewalk

bikeway exists, bikeway signs should be replaced with motorist warning signs. Where sidewalks exist for bicycle use, the curb should be depressed through its entire arc at intersections, and the crosswalk should be clearly marked.

BICYCLE PARKING FACILITIES AT STATE BUILDINGS:

All State agencies should establish a formal policy, providing secure, weather-protected, bicycle parking facilities at buildings where employees are assigned. Where visitors are expected as a normal course of State business, secure bicycle parking should also be provided.

BICYCLE ACCESS AT TOLL FACILITIES:

At present, there is no formal policy for bicycle access to toll facilities in the State of Maryland. These facilities present a positive barrier to interstate and intrastate travel. The Maryland Toll Facilities Administration should develop a policy, with assistance of the Office of Bicycling Affairs, for allowing bicycle transit on these facilities 24 hours a day, 7 days a week. Bicyclists should be expected to pay a reasonable toll for this service. The policy should include, but not be limited to:

- a. The William Preston Lane, Jr., Memorial Bridge
- b. The Governor Nice Memorial Bridge
- c. The Susquehanna River Bridge

BICYCLES ON THE PORT WELCOME:

The Maryland Port Administration should make provision on the Port Welcome, and on similar operations as they develop, for carry-on storage of bicycles. A letter from the Maryland Port Administration has been received which concurs in this recommendation (see General Appendix).

PROVISIONS FOR BICYCLES AT MTA, AND COMMUTER RAIL STATIONS AND ON MTA, AND COMMUTER RAIL TRAINS. A DESIGN POLICY STATEMENT

EQUAL ACCESS:

1. Station design and landscaping, especially access ways, will allow bicycles at least equal access with motor vehicles to the station area and parking facilities and at the same time avoiding conflict with approaching motor vehicles.

BIKE-SAFE GRATES:

2. Only drainage gratings of a bike-safe or reticular design will be installed in the roadway or walkways in the station area or along access roads.

BICYCLE PARKING FACILITIES:

3. As a minimum, bicycle parking spaces at all Mass Transit stations where automobile parking is provided will initially be 3% of the first 500 number of automobile spaces. At stations without automobile parking, a minimum of 6 bicycle parking facilities will be provided. (One automobile parking space equals approximately 10 bicycle parking spaces.)
4. Bicycle parking spaces at stations with automobile parking will be located at ground level as close or closer to the platform entrance than the nearest motor vehicle passenger discharge area. At stations without automobile parking, bicycle parking spaces will be provided in a weather-protected area, easily accessible and secure from theft.
5. The type of bicycle parking -- bike locker, rack, or other storage area -- suitable to a particular station will be determined in consultation with bicycle user groups.
6. The location of bicycle parking facilities will emphasize the security and weather protection aspects of station design.

USE OF RAMPS AND CURB CUTS:

7. Wherever the bicycle is permitted inside the station, the bicycle user will be allowed to use ramps or curb cuts designed primarily for the handicapped. In these areas, the bicycle may be walked or carried, but not ridden.

USE OF ELEVATORS, STAIRS AND ESCALATORS:

8. When access to the platform level is allowed, the cyclist will be permitted to transport his bicycle via elevator, stairs, or escalator. In the case of stairs or escalator, a ramp wide enough for a bicycle will be provided for the general safety.

DUAL-MODE TRANSPORTATION:

9. During off-peak hours, bicycle users will be permitted to transport their bicycles on trains, either in a portion of a car set aside for that purpose or a car for cyclists and their bicycles only.

FOLDING BIKES ON TRAINS:

10. Bikes, folded and hand-carried, will be allowed on trains at all times, provided they are contained in a durable, protective case or bag.

NEIGHBORHOOD MASS TRANSIT STATION BIKE ROUTES:

11. Street or roadway design and traffic re-routing associated with any design or construction of any stations, shall include some form of bike-way, or otherwise make adequate provisions for bicycles, from the community to the station site.

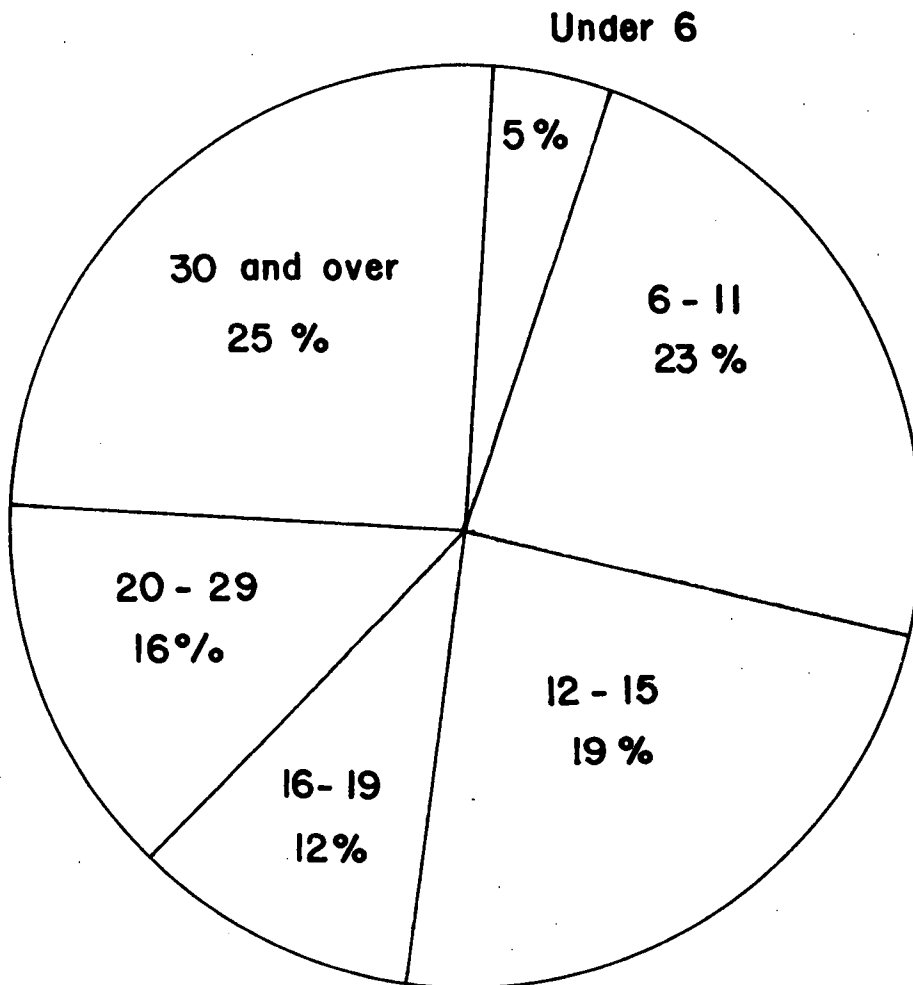
OFFICIAL ENDORSEMENT:

This policy statement was reviewed while in draft form by implementing agencies, and many of their concerns were incorporated. This policy statement was officially adopted by the Study Management Committee on December 21, 1978.

APPENDIX

FIGURE 2

PERCENT OF TOTAL BICYCLISTS
BY AGE BRACKET



47% of bicyclists
under age 16

FIGURE 3

PRIMARY MODE OF TRAVEL FOR WHICH THE BICYCLE WAS SUBSTITUTED

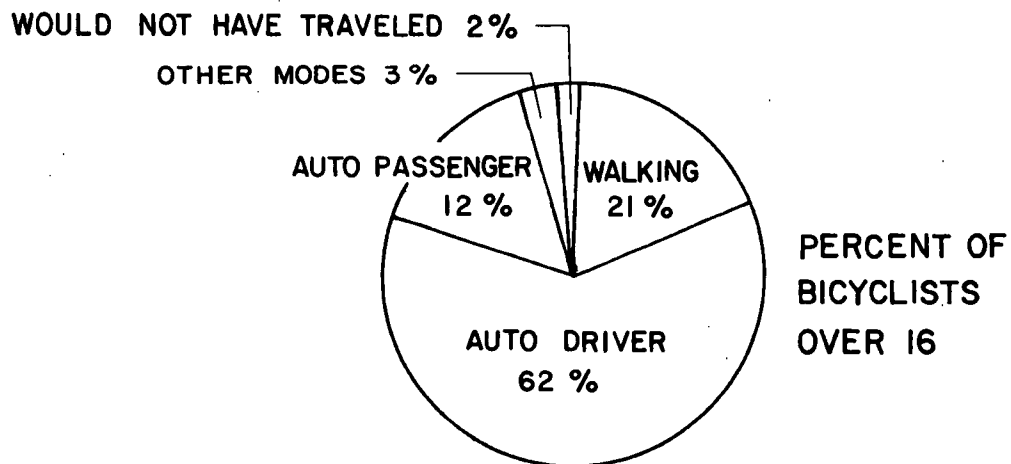
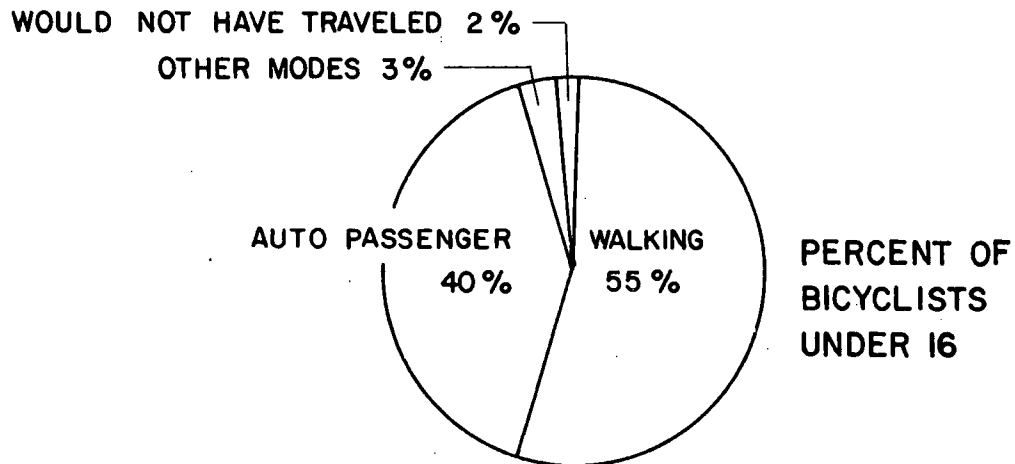
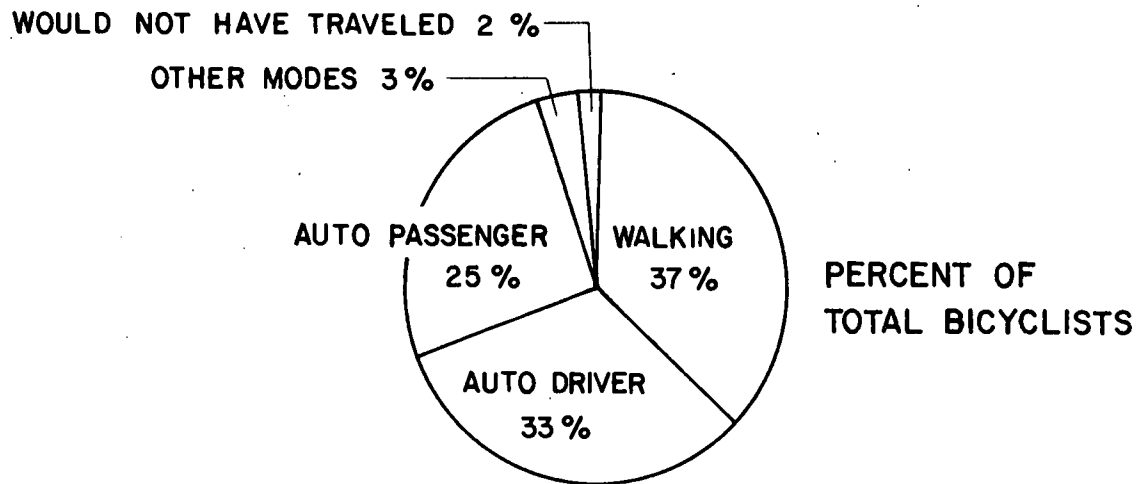
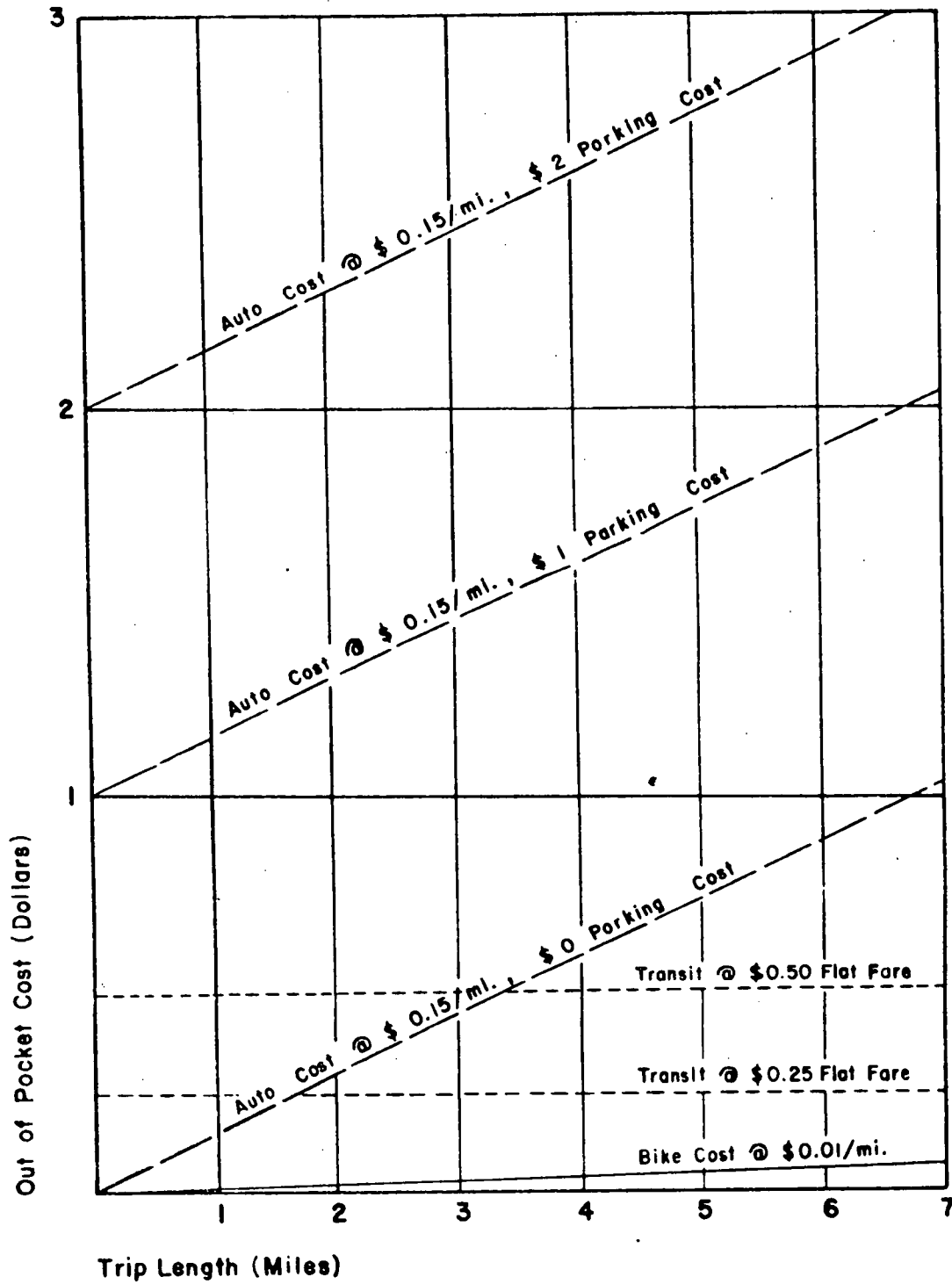
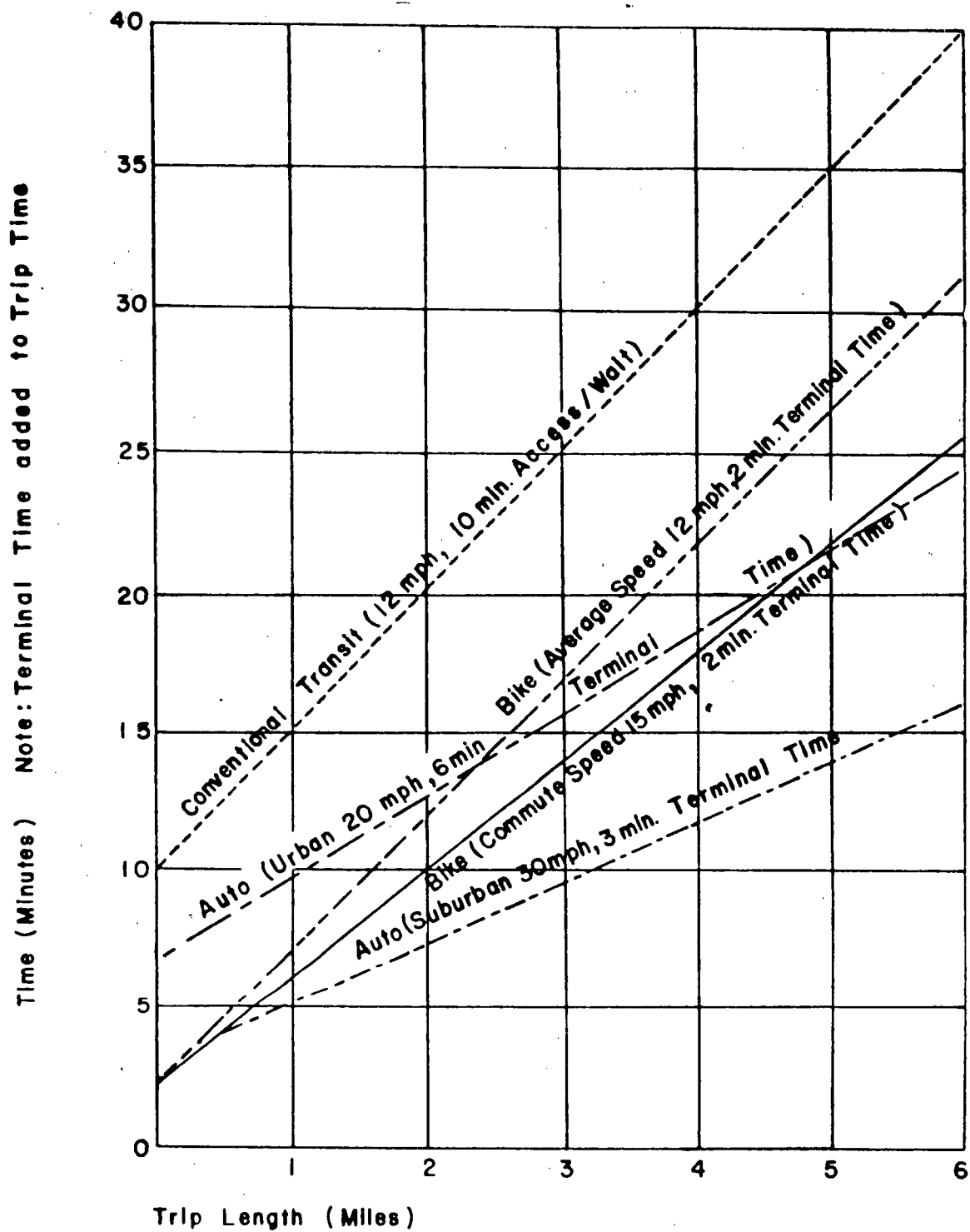


FIGURE 4



Travel Cost Comparisons

FIGURE 5



Travel Time Comparisons

SECTION IV

REVIEW OF EDUCATION AND LAW ENFORCEMENT PROGRAMS

	<u>Page</u>
Introduction	1
Conclusions and Recommendations	1
. Bicycle Safety Education	
. Information to Motorists and Bicyclists	2
. Law Enforcement	3
. Bicycle Law Enforcement Conference	3
. Major Emphasis in Education and Law Enforcement	4
Appendix	
. A Summary of Well Known Bicycle Programs	A-1
. A Summary of Four City and State Programs	A-3
. A Summary of Bicycle Safety Programs in Two Maryland Counties	A-4
. Proposed Revisions to the Maryland Driver's Handbook	A-7
. Motor Vehicle Administration, MDOT Response	A-10
. Proposed Revisions to "A Safety Handbook for Bicycle and Moped Owners"	A-12
. Division of Transportation Safety Response, MDOT Response	A-18
. House Joint Resolution 21 - 1978	A-20
. Major Types of Bike-Car Accidents	A-22
. Maryland Bicycle Accident Statistics	A-29
. Santa Barbara, California, Police Warning Card	A-32
. Report of the Bicycle Law Enforcement Conference, October 26, 1978	A-33
. League of American Wheelmen, Inc., Sources of Bicycle Safety Information	A-42

INTRODUCTION

A resolution on bicycle safety education in Maryland was introduced and defeated in the 1978 Maryland General Assembly. Detailed recommendations for the revisions of the Maryland Driver's Handbook and A Safety Handbook for Bicycle and Moped Owners were prepared and submitted to the Maryland Department of Transportation, Division of Transportation Safety, and the Motor Vehicle Administration.

Altogether, about 12 bicycle safety education programs were reviewed by the committee as a whole or by individual members. They included state and local programs, nationally recognized private programs, and programs from cities and states outside Maryland. They included slides, filmstrips and films. The survey of these programs has led to several of the conclusions and recommendations in this report.

The Bicycle Law Enforcement Conference, held at Baltimore City Police Headquarters on October 26, 1978, also led to several other conclusions and recommendations. The conference was judged an excellent forum by the 50 participating officers and bicycle safety educators, and plans are already being made to hold another conference in Frederick, Maryland, in the spring of 1979.

Excerpts from a definitive, national report of bike-car accident types, conducted for the federal government by Dr. Kenneth D. Cross, Anacapa Sciences, Santa Barbara, California, were discussed at sub-committee and management committee meetings. The major types are included in this report. They also led to additional conclusions and recommendations.

Attachments of a supportive nature include accident statistics, a model for bicycle safety education programs, law enforcement reports and a condensed list of additional bicycle safety information gathered by the League of American Wheelmen.

CONCLUSIONS AND RECOMMENDATIONS FOR IMPROVING BICYCLE SAFETY EDUCATION AND LAW ENFORCEMENT

Bicycle Safety Education:

1. Although bicycle safety education programs available from the State Department of Education provide a thorough teaching of bicycle handling and rules of the road, none offers the essential ingredient of on-the-bike, on-the-road training for learning how to prevent, avoid or reduce the risk of injury to the cyclist.
2. Such bicycle safety education programs, often called bike-car accident "countermeasure programs", do exist. One such program, the League of American Wheelmen-sponsored "Effective Cycling" program, is taught at many locations around the country, including Maryland. It assumes knowledge of bicycle handling skills and is suitable for persons of junior high school age and older.

3. In spite of the availability of bicycle safety education programs on the state level through the State Department of Education, bicycle safety education is almost non-existent among the school districts, except in the form of "Officer Friendly" programs of local law enforcement agencies.

4. On the other hand, many law enforcement agencies and private volunteer groups, such as 4-H clubs, the American Automobile Association, the League of American Wheelman and safety conscious volunteers among the public are attempting to implement bicycle safety education programs which are effective in varying degrees.

5. Such public and private bicycle safety measures are hampered by the lack of appropriate funding, equipment and materials.

6. The Committee recommends that all schools in all counties and Baltimore City take immediate steps to implement bicycle safety programs which have on-the-road training in all schools and for all pupils. The programs are available - it only remains for them to be put into use.

7. The Dr. Kenneth D. Cross study of bike-car accidents throughout the country, in its examination of bike-car accident types, is a firm indicator of the skills which must be taught to all age groups as part of on-the-bike, on-the-road training "A Model To Develop a Bicycle Safety Education Program" by Donald LaFond, Maryland State Department of Education, is based on the accident study.

8. On-the-road, on-the-bike training must be adopted as part of bicycle safety education in Maryland in order for bicycle safety programs to have any real effect in reducing bike-car accidents.

Information to Motorists and Bicyclists:

1. The two most readily available means for the state to communicate with Maryland bicyclists and motorists are the Maryland Driver's Handbook, published by the Motor Vehicle Administration, and A Safety Handbook for Bicycle and Moped Owners, published by the Department of Transportation.

2. These booklets do not contain all the necessary and accurate information in order to make all drivers aware of the rights and responsibilities of cyclists.

3. With minimal increase in budget for printing, these booklets can be revised with the cooperation of the appropriate state officials to provide clear, accurate information on the rights, responsibilities and problems of cyclists who share the roadway with motor vehicle drivers.

4. Such revisions to these booklets would accurately reflect the increase use and interest in bicycles and mopeds throughout the State. Dialogue concerning these provisions is still underway. (See Appendix)

Law Enforcement

1. An all-day conference of police officers, the Maryland Bicycle Law Enforcement Conference, held in Baltimore City on October 26, 1978, revealed the following interest and attitudes concerning the bicycle:

a. Although specific kinds of problems vary geographically, problems of bicycle safety and law enforcement exist in significant degrees in all areas of the State, and they are growing faster than decision-making officials realize.

b. Law enforcement officers at the street level recognize the severity of bike-car accidents and bicycle theft problems.

c. Law enforcement agencies are severely hampered by a shortage of personnel and money to deal with the growing problems of the bicycle.

d. Law enforcement officers are reluctant to enforce the law against bicyclists due to the frequent adverse reactions of courts, superior police officers and the public.

e. The data and conclusions of A Study of Bicycle/Motor Vehicle Accidents: Identification of Problem Types and Counter-measure Approaches by Dr. Kenneth D. Cross are relevant to the law enforcement problems of the bicycle in Maryland.

f. There is a substantial need for educating all elements of the community regarding the problems of the bicycle, its safe use and the prevention of bicycle theft.

g. The community includes parents, citizens, police, judges, and educators.

h. The attitude of the motorist toward the cyclist is often negative.

i. Greater emphasis and faith must be placed in education for long range solutions to the problems of the bicycle.

CONCLUSIONS OF THE BICYCLE LAW ENFORCEMENT CONFERENCE:

1. Judicial support for bicycle law enforcement is the essential factor in its success.

2. Various ways must be attempted to involve the judiciary in the education program directed at the community.

3. Mandatory registration of bicycles is necessary to carry out bicycle law enforcement.

4. An educational campaign to acquaint the public with the need for bicycle law enforcement is highly desired among law enforcement officers.

5. Bicycle law enforcement programs should be adopted for police officers and cadets in in-service training programs and at police academies.

6. An immediate, short-term goal of the State or the legislature should be the creation of a simple, uniform, but separate, legal system for juvenile bicycle drivers, something that street officers can implement without any extra time or paperwork. It does not have to be mandatory but it should be made attractive by simple effectiveness.

MAJOR EMPHASIS IN EDUCATION AND LAW ENFORCEMENT:

The sub-committee believes that the only adequate approach to reducing bike-car accidents is; (1) bicycling instruction given by efficient, trained instructors and involving on-the-road, on-the-bike training at least 50% of the time and (2) consistent bicycle law enforcement by informed police officers using a system of accident countermeasure and involving the rest of the community.

"A Model to Develop a Bicycle Safety Education Program" includes a definite catalog of topics that should go into a responsive bicycle safety program.

APPENDIX

A SUMMARY OF SOME WELL-KNOWN BICYCLE SAFETY PROGRAMS:

1. LaFond, Donald. Bike Basics. BWI Airport, Md.: Maryland Depts. of Transportation and Education, 1975.

For grades k-6. Includes 65-page booklet of rules and laws for beginning cyclists, teacher's guide, and 72-frame filmstrip. Bike Basics is a four-color printing with material arrangement best presented by following the teacher's guide. The student is asked to write in his answers to questions after a 9-page introduction. It is divided into six "adventures": 1. Vehicles 2. The Good Driver 3. The Bicycle 4. Directions; Signs and Signals 5. Laws and Rules 6. Good Sense and Responsibility.

2. Buck, Lindy, Dorothy Hauser, and Harold Heldreth. All About Bikes. Chicago: National Safety Council, 1972. (Ages 5-12).

Guide For Leaders: 4-H Bicycle Program. Washington, D.C.: U.S. Dept. of Agriculture Extension Service, 1971. (Ages 12-15).

Cub Scout Bicycles Safety Program. North Brunswick, N.J.: Boy Scouts of America, 1977.

These programs have the following common elements:

1. A change in concept and vocabulary from bike rider to bike driver.
2. The bicycle is a vehicle subject to all of the traffic rules of the roadway.
3. Teach "decision making" and "judgment factors" essential to safe bike driving.
4. Teach rules of the road.
5. Teach methods of bicycle inspection.
6. Teach minor maintenance and repair.
7. Outline skills driver/bike rodeo contests.
8. Identify three major bicycle types.
9. Set criteria for safe bicycling games.
10. Provide tests and quizzes.
11. List additional resources.

All About Bikes is probably one of the most widely used bicycle safety programs in the country. A teaching kit includes a six-unit teaching guide, basic and advanced activity books, a

teacher's edition of the activity books, 58 A-V graphics for the overhead projector, "Bicycle Fact Sheets," and a bicycle maintenance manual.

The teaching guide outlines precise steps for each of the units and is keyed to the visuals. Units are titled (I) Your Bicycle and the World Around You (II) Get Ready, Get Set, Drive (III) Two Bikes in One (IV) Rules and Laws (V) The Truth About Bicycle Accidents (VI) How To Prevent Bicycle Accidents. The teaching guide is arranged in single or double-column form, depending on whether the same or different approach is called for with basic or advanced activities. Activity books emphasize identification and situational skills rather than verbal ones. Altogether, this 8-hour program reflects a sophisticated safety approach by a nationally recognized group.

The 4-H Bicycle Program includes detailed suggestions for 4-H leaders on how to teach a unit on bicycles. The basic program includes three manuals for students and one leader's manual with accompanying material such as leaflets, slides, and fliers. The well-known 4-H Talking Bike, is available for loan from regional 4-H offices. There is a list of study topics; suggested "meeting plans"; suggested riding activities, e.g., balancing signalling, entering a highway; favorite bike games and races; and a bicycle inspection form and quiz. It is primarily designed for outdoor use where each student has his own bicycle. An interesting section discusses careers and vocational opportunities associated with bicycles.

The Cub Scout Bicycle Safety Program is an annual Cub Scout activity in which troop scout leaders train Cub Scouts in bicycle safety skills. Each boy is taught how to keep his bicycle in safe condition, how to drive his bicycle in a safe manner, and how to read traffic signs and follow the rules of the road. Included is a 15-page Leader's Guide; a Safety Inspection Checklist; Bike Rodeo and Skills Sheet; and supportive materials such as decals, participation stickers, and a 24-page "Bike Fun" reprint from Boy's Life magazine. Cub Scouts can earn a cycling merit badge for completing all the activities

3. Forester, John. Effective Cycling. 3rd ed. Palo Alto, Calif.: Custom Cycle Fitments, 1978.

Effective Cycling by a national certified program by the League of American Wheelmen, Combining theories, discussions of maneuvers and tactics, with on-the-bike experience in different traffic situations, terrain, and weather under the supervision of qualified instructors. Two-thirds of the 33-hour course is spent cycling. It has proved successful with 12 year olds and older students.

Content focuses on four aspects: the bicycle, the cyclists, cycling environment and cycling enjoyment. Test and course begin with bicycle selection and required tools and end with discussion of touring and racing opportunities. Brake and hub adjustment are demonstrated, and frequent repairs are made. The importance of gear calcualtion and proportionally spaced gearing are dis-

discussed and demonstrated. Cyclist posture, pedalling technique, emergency maneuvers and nutrition lead into the heart of the course, i.e., traffic law and its quirks, bike-car accident causes, position on roadway, negotiating road hazards, changing lanes, crossing intersections, riding at night and riding in the rain. Patch and certificate are issued on completion.

A SUMMARY OF FOUR OTHER CITY AND STATE PROGRAMS:

1. A Bicycling Awareness Program for the Upper Elementary Grades. Boston, Mass.: Registry of Motor Vehicles, Bicycle Safety Advisory Committee, 1978.

This program was prompted in part by the death of Mass. State Senator William L. Saltonstall's daughter in a bike-car accident. It is divided into two parts: a Bicycle Learner's Course, designed to certify skills for off-street use of the bicycle, and a Cycling Skills Course for certifying on-street capability in operating the bicycle. Certificates of these capabilities are issued to the student upon successful completion of the courses.

The details include the usual fundamentals, beginning with the kind of bicycle used and fitting it to the rider. Rules of the road are covered. Several other sections -- how accidents happen, control of the bike, detecting hazards, cycling survival skills -- identify this program as a countermeasure type.

Means for accomplishing the objectives include route surveys by the instructors, supporting volunteers from the community, an organized bicycle hike, a skills test and quiz. There are eight masters for reproducing hand-outs, as well as a list of free pamphlets, films, and where to get them. Instruction to teachers are given throughout.

2. The Richfield, Minnesota, Plan: This town of some 47,000 citizens responded to dramatic increases in bike-car accidents during 1975 and 1976 by developing a continuous program of bicycle law enforcement and education. An initial cadre of bicycle patrol officers was hired with CETA funds and equipped with donated bicycles (complete with sirens) and department uniforms.

These four full-time patrol persons on 10-speed bikes issued citations to bicycling violators. The first ticket required attendance of the violator at a bicycle safety seminar conducted by the officers. For a second offense, the violator had to attend two seminars. For third offenses, or failure to appear after a citation, the violator was required to appear for trial in juvenile court.

Tickets to attend the seminars were issued to violators between ages 7 and 17. Eighteen-year-olds received normal traffic citations to appear in traffic court. Violators under age 7 were accompanied to their home. Regular officers assumed bicycle law enforcement when CETA funds expired.

3. The Mt. Prospect, Illinois Plan of Bicycle Safety: In this town of 50,000 citizens and 35,000 bicyclists, cycling offenders appear before a peer court of Explorer Scout honor students. Regular patrol officers are responsible for supporting the program, and 75% of them were converted after seeing the film "Ride On By."

Among major types of violations, the wrong way biker was second to the cyclist who ignored traffic signs and signals. In bike-car accidents, statistics for 1974 revealed that the cyclist was largely at fault. After two years of the program in 1976 it was determined that the motorist in a bike-car accident was largely at fault. In 1977, bikers and motorists shared equal responsibility for accidents.

Traffic court is held in a schoolroom and follows the strict protocol and procedure of a regular courtroom. All aspects of bicycle safety are covered in the program: classroom talks, a mobile display van, registration and inspection and rodeos. Re-licensing the bicycle is required every three years.

4. The Santa Barbara, California, Bicycle Enforcement Program:

A warning system in this city where the high-impact film "Ride On By" was made replaces bicycle seminars. When the program began, there was a 30-day educational and media blitz that enforcement would begin against cycling offenders. The next period of 60 days was devoted to issuing warning tickets to violators. After 90 days, strict enforcement commenced.

Costs of the program's publicity were borne by auto clubs, civic clubs, newspapers, bike shops, banks and other businesses. During the 60-day warning period, bicycle warning cards were given to violators (See attachment), and a parent notification letter was mailed with a copy of the warning card to the violator's home. Observations of cycling behavior during the first three years of the program revealed a considerable drop in violations of the law.

One of the principal goals was equal enforcement of traffic laws for cyclists and motorists. Each officer was asked to write one cycling ticket per week initially. The fire department in this city inspects, licenses, and registers bicycles.

A SUMMARY OF BICYCLE SAFETY PROGRAMS IN TWO MARYLAND COUNTIES:

1. Anne Arundel County Bicycle Safety Clinics: These clinics were conducted through the summer and fall 1978 by Mr. John Overstreet, Assistant Bicycle Safety Coordinator for the Department of Recreation and Parks.

The clinics were conducted at about 14 locations, most of them elementary schools. The reaction was mixed, ranging from complete indifference by the school and the community (Van Bokkelen Elementary) to enthusiastic reception (West Meade-Ft. Meade, Ferndale-Glen Burnie, Point Pleasant-Glen Burnie and Central Elementary).

Location selections were made on the basis of playgrounds with high bicycle use or areas with high auto-bike accident rate. Two persons collaborated: one to do the talking and another to fix the bikes.

The safety clinic idea developed out of clinics held during the 1977-78 school year at Quarterfield Elementary School, the Odenton Library, and Corkran Junior High School. Mr. Overstreet followed the Maryland bicycle education guidelines developed by Mr. Don LaFond, and the schedule was divided into three parts: classroom, school yard riding, community riding. For each half hour of classroom instruction there was about one hour of cycling.

Talks and safety films were conducted in the school room while the school yard was used for bike inspection, the road parts of the skills test, repairs, fixing flats, riding together and games. Rides in the community patterned after Section III of John Forester's Effective Cycling program varied between two and ten miles.

The results of the summer program: Ten summer playgrounds were visited for $\frac{1}{2}$ day each week for a total of 10 hours instruction at each one. About 170 bicyclists completed the course, although a total of 538 joined in the first meeting and skill test. Seventy-five per cent of the cyclists were under eight years of age. First, second, and third place completion awards were given, and certificates were issued to all participants.

AAA bike safety posters were displayed at all locations, and a 2x4 plywood bike safety billboard was placed in view of passing motorists. Police assisted with the clinic at eight of the 10 playgrounds, with the state police rated better on safety than the local officers.

The bicycle instruction team, besides the John Forester text, used Unit 4 of the National Safety Council's "All About Bikes" program, filmstrips, and various transparencies. They used 20 tire repair kits and 20 rolls of masking tape.

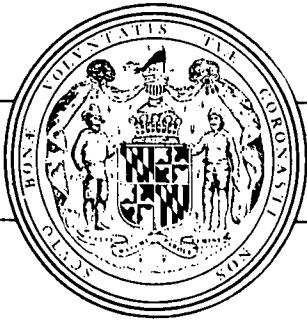
There were six meetings in all at each location. During the first, the program was introduced, permission slips were given to children for parents to sign, bike inspections and emergency repairs were made, and the film "Just Like A Car" was shown. At the second meeting, bike handling skills were tested, a slogan was adopted, tire repair equipment was demonstrated, and a filmstrip was shown. For the succeeding meetings the pattern was essentially the same with a new filmstrip shown each time, and activities such as slow races, rides on local streets, emergency stops and dressing up bikes conducted.

Altogether, 650 cyclists and 18 adults participated in the program. Future plans include implementation of A Bicycle Touring Handbook to be placed in each library and an early spring start with the bicycle safety clinics.

2. Bicycle Safety and Activities. Towson, Md.: Baltimore County Public Schools, Elementary School Physical Education, 1976.

This program was not conducted on so wide a scale as that in Anne Arundel County, but it is supposed to include at least one on-the-road bike ride. Its purpose was to help physical education teachers plan programs in bicycle safety and help classroom teachers cooperate with the physical education teachers in this planning.

It is composed of four parts: Suggested Procedures for Implementing a Bicycle Unit, Bicycle Safety, Basic Skill Tests, Recreational Use of the Bicycle. Each of the units uses the booklet Wheels Away, an individualized workbook program. The tests on the playground merely demonstrate the bicyclist's skill in a rodeo format without any emphasis on countermeasure approaches to accident situations. The sole exception to this is Test #12, a Cruising Test done under the supervision of the instructor and a cadre of assistants, in which the cyclist demonstrates several turns, stops, intersection crossings, U-turns, use of pedals and brakes and going up and down hill for about 20 blocks.



Maryland Citizens Bicycle Study Committee

March 14, 1978

MEMORANDUM

TO: John Rost, Chairman
Citizens Bicycle Study Management Committee

FROM: Joe Gardiner, Chairman
Subcommittee on Education and
Law Enforcement Program

SUBJECT: Draft of Proposed Revisions to the Maryland Driver's Handbook DL-2 (7-77), Chapter IV, "Traffic Laws and Rules of the Road," p. 26 ff:

-
1. In the first sentence, p. 26, insert following words (shown in capital letters) so that it will read: Traffic laws are intended to prevent accidents and keep traffic, INCLUDING MOPEDS AND BICYCLES, moving.
 2. In section titled, "The Driver Signals," p. 27, insert new paragraph as follows: Motorists must be aware that bicyclists use arm signals for turns and lane changes. Bicyclists on the roadway are subject to the same laws as the motorists. They should use arm signals for a change in direction.
 3. Under section titled, "Starting From the Curb," p. 28, insert the following words, shown in capital letters, so that sentence will read: Look for car OR BICYCLE coming from the rear.
 4. Under section titled, "Rules for Stopping and Parking," p. 29, replace the word traffic in the next-to-last rule with cars and bicycles so that it will read: Watch for cars and bicycles before you get out on the driver's side.
 5. In illustrations for "right-of-way" rules on p. 35, include drawing of bicycle.
 6. In the last sentence of paragraph (3) on p. 35, change the word "car" to "vehicle."
 7. In paragraph (4) on p. 36, insert the words "or bicycle" between "car" and "has".
 8. In paragraph (7) on p. 36, insert "or bicycle" between "cars" and "on".

John Rost, Chairman
Page two
March 14, 1978

9. In the paragraph titled, "Watch for Pedestrians at Night," p. 37, insert the phrase, "and bicyclists riding at night," between "street" and "often". Insert comma after "chances".

10. In paragraph titled, "Bicyclist," p. 37, revise and rearrange to include the following:

Bicycling has become increasingly popular as a means of recreation and short distance transportation. Students ride bikes to school; families who only own one car sometimes use a bicycle to travel to work or to perform errands. In congested areas bicycles can reduce parking problems. For recreation, Maryland has an excellent network of scenic roads that make cycling very enjoyable.

As a motorist, you should share the road and remember that bicyclists are allowed on all Maryland highways except toll roads and controlled access highways (freeways and expressways). Bicyclists are granted all the rights and duties of a motor vehicle operator and have as much right to be on the road as a motorist. Being a slow-moving vehicle, the bicycle is normally expected to keep as near to the right of the roadway as is practicable, safe and reasonable except when making a left-hand turn, operating on a one-way street, or passing.

The bicyclist who operates his/her bicycle responsibly has equal rights with the motorist to use the roadway. The law admonishes the bicyclist to ride as far to the right as practicable; however, he cannot safely ride over sewer grates, loose gravel, broken glass, wet leaves, or other materials on the roadway.

11. Insert drawings of bicycles in illustrations on pp 38-39.

12. Change "vehicle" to "car or bicycle" on p. 38.

13. Under "Left Turn -- Two Way to One Way," p 39, add phrase to second direction so that it reads: Yield to all traffic INCLUDING BICYCLES.

14. Under "Right Turns" on p. 40, insert the phrase, "and bikes" between "cars" and "ahead" in the last direction and add another direction as follows: Yield to cyclists who are ahead.

15. To the section titled, "Passing" on pp. 41-42, add the following paragraph:

When overtaking a bicycle, you must consider that such a vehicle needs as much care in passing as another motor vehicle. You have the responsibility to make sure that it is safe to pass. Take care that you leave a bicyclist enough room and don't cut back too soon. Remember that many roads and bridges were built in the '30s when

BICYCLISTS

As a motorist, you should share the road and remember that bicyclists are allowed on all Maryland highways except toll roads and controlled access highways (freeways and expressways). Bicyclists are granted all the rights and duties of a motor vehicle operator and have as much right to be on the road as a motorist.

The law requires a bicyclist to ride as far to the right as practical; except when making a left hand turn, operating on a one-way street, or passing. However, he cannot safely ride over sewer grates, loose gravel, broken glass, wet leaves, or other materials on the roadway.

WHEN PASSING

Be especially careful while passing a bicyclist, give him plenty of room and be prepared for any sudden stops. If the road is narrow and you are unable to pass, do not follow a cyclist too closely or startle him by blasting your horn. Remain at a safe distance and sound horn just enough to warn him that you wish to pass.

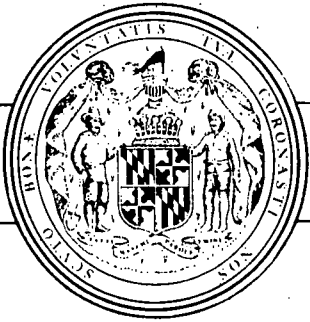
Always take as much care in passing a bicyclist as you would in passing another vehicle. Remember to leave a bicyclist enough room and don't cut back too soon. Even when the highway appears to be wide, rough shoulders, glass, debris, and parallel sewer grates often force bicyclists to ride farther out in the road. If the lane is narrow, especially if you have a large vehicle or a wide mirror, use the next lane over when safe. When going around a blind curve, never pass a bicyclist unless there is plenty of room for you between the bicyclist and the center line.

WHEN TURNING

If a cyclist is traveling between you and the side of the road as you are preparing to turn, be sure he knows of your intention and is not in your path as you make the turn.

Motorists should also be aware that responsible bicyclists use arm signals for turns and lane changes.

Illustrations on pages 28, 29 and 35-40 of the revised Maryland Driver's Handbook will add the word "bicycle" wherever car appears or substitute the term "vehicle" for car.



Maryland Citizens Bicycle Study Committee

April 19, 1978

From: Sub-Committee on Education and Law Enforcement
To: Management Committee, Bicycle Study Committee
Subject: Revisions to "A Safety Handbook for Bicycle and Moped Owners"

The sub-committee recommends the following changes to the bicycle safety handbook:

1. When signed into law, HB 309, which creates a clear distinction between the regulation of mopeds and bicycles, will require a new system of examining and licensing drivers of these motorized bicycles. The committee recommends, therefore, that a separate section for mopeds be created in the handbook. We do not think that there should be a separate handbook for the moped unless it is defined separately in the vehicle code.

2. Page 3: We have discussed the legal question raised by the last line of the third paragraph, i.e., "...it is not a proper authority to cite," and feel that the phrase should remain unchanged because the overriding purpose of the booklet is to educate the vehicle driver.

3. Page 3: Replace the term "bicycle laws" in the last line of the second paragraph with "traffic laws".

4. Page 4: A question has been raised about the phrase "in tandem" in the third line of the first paragraph. Although it is a redundancy when applied to the modern bicycle, we believe it should be retained because it is defined so in the code.

- (a) In the second line, third paragraph, the phrase "not intended for pedaling" should be replaced with "cannot be pedaled" since the machine referred to, "minibike" does not have pedals.
- (b) The word "duties" in the 4th paragraph should be retained since it reflects the language of the code.

- (c) Delete the five "dotted" paragraphs following the term "Bicycles are not allowed on": and substitute the following which clarifies the definitions of "roadway", "highways", and fully-controlled access highways":

- * Sidewalks unless permitted by local ordinance.
- * Tunnels and bridges and their approaches, operated and maintained as public toll facilities.
- * Fully-controlled access highways (highways marked in green on the Maryland highway map which use interchanges instead of at-grade intersections. Examples include Interstate 95, Baltimore Beltway, and Maryland Route 100).
- * Roadways (that portion of a highway ordinarily used for vehicular travel, other than the shoulder) where the posted maximum speed limit exceeds 50 miles per hour.
- * A roadway which has an adjacent bike lane or shoulder paved to a smooth surface and which is free of debris and other hazardous conditions.

- (d) Add to the "DO" section, which continues onto Page 5, an encouragement to use Maryland roads, such as:

- * Use the Maryland State and County road maps to find secondary routes that parallel major highways. These routes offer safe, interesting, and enjoyable cycling. Maps may be purchased at _____.

- (e) Change the first line of the last "dotted" paragraph on page 4, "Ride as near to the right side of the roadway as possible", to read, "Ride as near to the right side of the roadway as is practicable". This should be done to conform to legal language and to discourage the interpretation of "possible" to mean "against the curb or edge of the roadway".

5. Correct illustration so that --

- (a) Red light is at the top of the signal instead of the bottom.

- (b) Add brake cable to the left handlebar and downtube shift levers.
- (c) Remove lower cable extending from right hand of rider to head tube (it serves no purpose).

6. On Page 6, correct second dotted paragraph so that the element after the second semi-colon is changed to read, "and the left arm bent downward indicates slowing or stopping".

- (a) Revise the third dotted paragraph so that it does not incorrectly state that "two abreast" riding on the roadway is never permitted. It may be simpler to substitute the two sentences in Section 11-1205 of the code: "Persons operating bicycles in a public bicycle area may not ride more than two abreast. Persons operating bicycles on a highway shall ride in single file".

7. On page 7, add to the list of don'ts --

- * Don't use busy, high speed highways if you are a child or novice rider. Cross this kind of highway only on an overpass or at a signalized intersection.

8. The illustration of the bicycle is deficient because --

- (a) No rear red reflector is shown (although a front light is depicted).
- (b) Delete all component labels not required by Maryland law, e.g., chain guard and wheel reflectors, or label them as requirements imposed by Federal action.
- (c) Correct word in third dotted paragraph from "line" to "light".
- (d) Emphasize the advantage of a rear light over a rear reflector.

9. Revise all five items as follows and include illustrations to support each situation. Remove the illustration currently on page 9.

- * Vehicles turning into your path at intersections, from alleyways and driveways, or turning right on a red signal.

- * Vehicle doors opening into your path as you ride next to parked vehicles.
- * Pedestrians, especially children, and dogs or other animals.
- * Glass, nails, sand, gravel, wet leaves, pot holes, storm grates, pavement separations, railroad tracks, and other hazardous conditions.
- * Air turbulence caused by fast-moving vehicles.

10. Page 10: Add a helmet to the rider in the illustration.

- (a) In the second paragraph, change the second italicized sentence to read, "For night biking, retro-reflecting materials, such as orange or yellow, are recommended."
- (b) Label the remaining writing on page 10 as "Safety Tips".

11. Page 11: Replace illustration with one showing the proper way to size the bike to the rider and one showing proper elevation of the seat post.

- (a) The second paragraph should be deleted entirely and replaced with, "Before buying, try a new bicycle for size, just as you would new clothes for fit. Straddle the bike forward of the saddle with your hands on the handlebar to hold it upright and your feet flat on the ground. There should be about one inch between the top tube and your crotch, no more, no less. If there is less than one inch, the bicycle frame is too large and you will likely injure yourself, pull muscles, or have a very uncomfortable ride. If there is more than one inch, you will have trouble adjusting the saddle and handlebar stem to accommodate your bone structure."
- (b) Create new paragraph for adjusting the saddle height to suit your leg length as follows:

Have someone hold up the bicycle as you seat yourself on the saddle. Place the ball of your foot on the pedal at its lowest position (in line with the seat tube). If there is more than a slight bend in your knee, raise the seat accordingly. If your leg is fully extended, lower the seat until the slight bend in the knee is achieved.

- (c) The last paragraph on page 11, relating to handlebar adjustment, is quite correct.

12. Add the following items to the illustration on page 12:

1. Rear reflector.
2. Outline of a rim to show the proper position of the brake shoe.

- (a) Add the following sentence to the text on page 12:

Brakes should be adjusted so that each brake shoe is about 1/8 of an inch from the rim.

- (b) Revise the current first sentence, "A bicycle requires ...," to read, "A bicycle should be inspected before each ride for working brakes, tight saddle, handlebar adjustment, properly tightened wheels, and properly inflated tires."

- (c) To the last italicized sentence of page 12, add "and libraries".

13. The illustration on page 13 is deficient because it does not show the proper way to secure the entire bicycle, both wheels and frame, against theft. It is also not secure when the chain is shown passing through a U-bolt rather than around the post. Correct the illustration to show a side view of the bicycle properly chained to a permanently imbedded upright post.

- (a) Add to the text on page 13 appropriate references to the description for registration on page 14 and the form for doing so on page 17.
- (b) Describe briefly places for securing your bike such as well-lighted areas, tall posts or trees, locations from which you can readily see it from inside a building.

HOUSE JOINT RESOLUTION No. 21

RESOLVED, That this program meet minimum standards of instruction as defined by the State Superintendent of Schools; and be it further

77
78

RESOLVED, That this program also be made available to private schools and other groups with an interest in bicycle safety education; and be it further

80
81

RESOLVED, That a copy of this Resolution be sent to Mr. David W. Hornbeck, State Superintendent of Schools, Department of Education, Baltimore-Washington International Airport, Baltimore, Maryland 21240.

83
84
85

Major Types of Bike-Car Accidents: Excerpt from -- Cross, Kenneth D. and Gary Fisher. A Study of Bicycle/Motor-Vehicle Accidents: Identification of Problem Types and Countermeasure Approaches. Washington, D.C.: National Highway Traffic Safety Administration, 1977

Dr. Kenneth Cross of Anacapa Sciences Santa Barbara, California, with a grant from the National Highway Traffic Safety Administration and the Consumer Products Safety Commission, studied 753 non-fatal and 166 fatal accidents in the metropolitan areas of Tampa, Florida; Detroit, Michigan; Denver, Colorado; and Los Angeles, California, during 1975. Operators and witnesses were interviewed at length and in person, each accident site was visited, and accident reports were studied. A total of 36 unique accident types were identified. Twenty-three of them are reproduced in this report.

Both cyclist and motorist were predominately male. The proportion of males was greater for the fatal sample than for the non-fatal sample. Seventy-one per cent of the non-fatal accidents and 85% of the fatal accidents involved a male bicyclist. A male motorist was involved in 65% of the non-fatal accidents and 72% of the fatal accidents.

Bicyclists' ages ranged from four years to more than 80 years. Beginning at four, accident frequency rises steadily to age 12 and remains high through 15. After this, accident frequency drops and remains low beyond age 30 years. Bicyclists in ages 12-15 accounted for 37% of the accidents. Fatal accidents were found to be proportionately more frequent for very young and very old bicyclists.

Motorists and bicyclists were experienced vehicle operators. Most were driving a vehicle they were thoroughly familiar with at the time of the accident. Ninety-five percent of the motorists and bicyclists had more than one year's driving experience. Seventy-three per cent of the cyclists and 93% of the motorists had driven their vehicle at least fifty times before the accident occurred.

Except for intoxication, few operators reported any impairment at the time of the accident. Less than 1% of the cyclists were impaired by alcohol. Drinking motorists were found in 3.5% of the non-fatal accidents and 16.9% of the fatal accidents. However, in the overtaking accident types, in which 24.6% of the cyclists died, 33% of the motorists were intoxicated. Eighty per cent of this accident type occurred on two lane rural roads at night, and both vehicles were equipped with the legal lighting and reflection equipment. Alcohol was judged contributory in nearly every case where it was present.

This study did not include any accidents in which the bicyclist was behaving as a pedestrian.

"Accident Class D, Motorist Overtaking/Overtaking-Threat" revealed no contributory cause from cyclists riding two abreast. In this class, the high incidence of fatal injuries was due to high speed of the overtaking vehicle and the failure to detect the bicyclist via reflectorized material until the accident was unavoidable. Overtaking accidents accounted for one-fourth of the fatal injuries in the study. Although two abreast riding was not detected in these accidents, it is probable that the cyclist was riding farther to the left than normally in order to avoid debris, road surface deterioration and other things that would affect adequate control during nighttime conditions.

Sixty per cent of the bicyclists who were involved in nighttime accidents had lawful taillights on their bicycles when the accident occurred. The conclusion is that standards for taillights or bicycle rear reflectors are inadequate under some circumstances. The question is not how far away the motorist can observe the rear reflectors under optimal conditions, but what is required to attract the motorist's attention under non-optimal conditions. That is, what type of taillight would be required to attract the attention of a fatigued drunk driver who is traveling at a relatively high speed on a rural roadway where he does not expect to encounter a bicyclist? The median age for cyclists in the non-fatal sample of this accident class was 18.3 years; for the fatal sample, 20.5 years. Younger cyclists were apparently not permitted to ride during darkness in these areas.

The six major accident groups identified in the Kenneth D. Cross and Gary Fisher study follows:

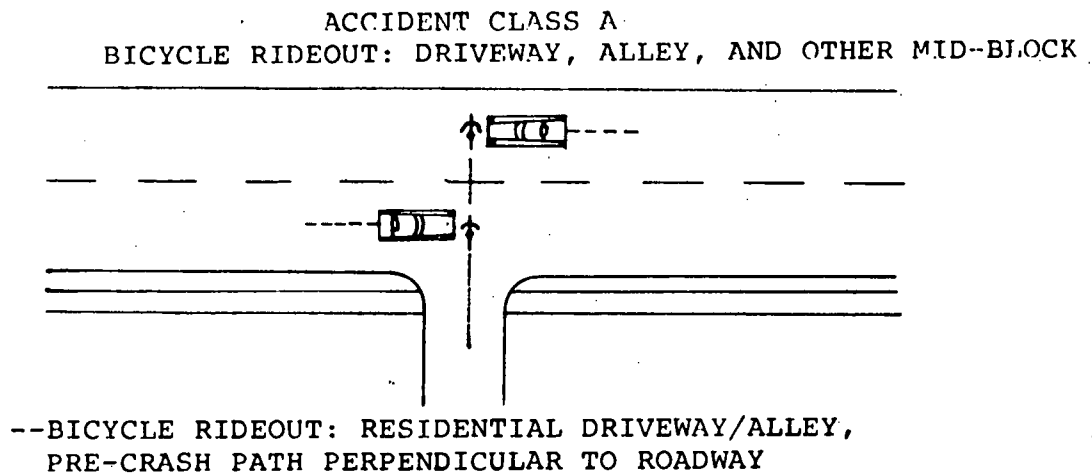
The Data - Six Accident Groups

The data is presented on six simple accident groups. Each accident group contains accidents with a broad similarity. The six accident groups are listed below:

- A) The bicyclist rides out into the traffic stream from some midblock location, such as an alley, a driveway, or just over the curb and into the street.
- B) The bicyclist rides out into cross traffic from a street at an intersection controlled by a signal light or a traffic sign.
- C) The motorist is entering the traffic stream from a driveway or alley, or from a cross street controlled by a stop sign.
- D) The motorist overtakes the bicyclist from behind.
- E) The bicyclist makes an unexpected left turn or swerve, into the traffic stream.
- F) The motorist makes an unexpected turn into the bicyclist's right of way.

The accident situations described above are best illustrated with diagrams. Diagrams for each accident configuration A-F follow. Under each accident diagram, there is a key to describe each of the symbols on the diagram.

A

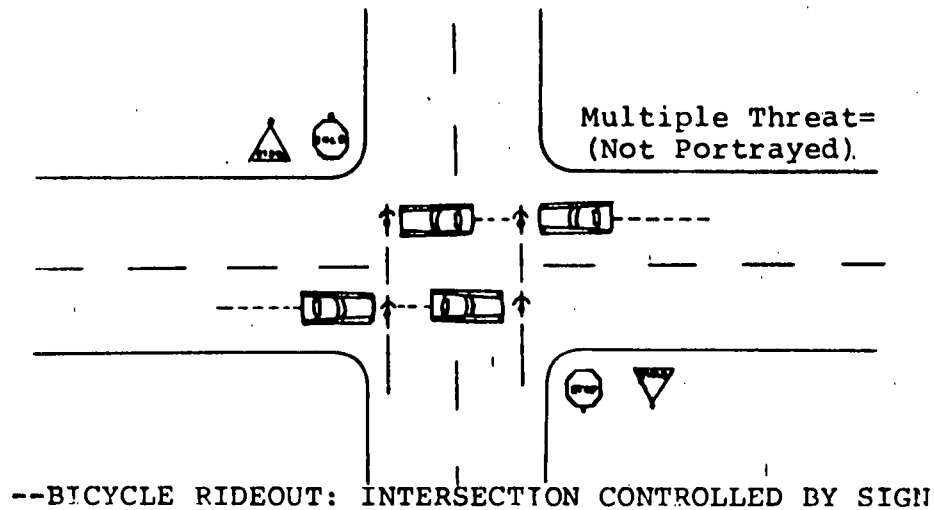


Key A

- ←..... Bicycle
- Automobile or other motor vehicle
- Pre-crash motor vehicle direction of travel
- Pre-crash bicycle direction of travel

B

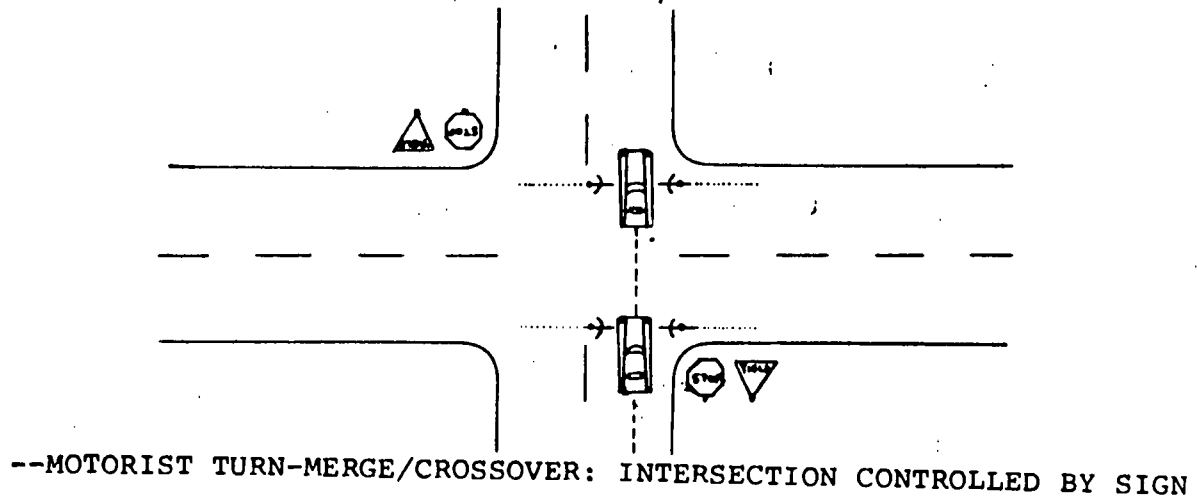
ACCIDENT CLASS B
BICYCLE RIDEOUT: CONTROLLED INTERSECTION



Note: Wrong way bicycle pre-crash travel line on left of intersection diagram.

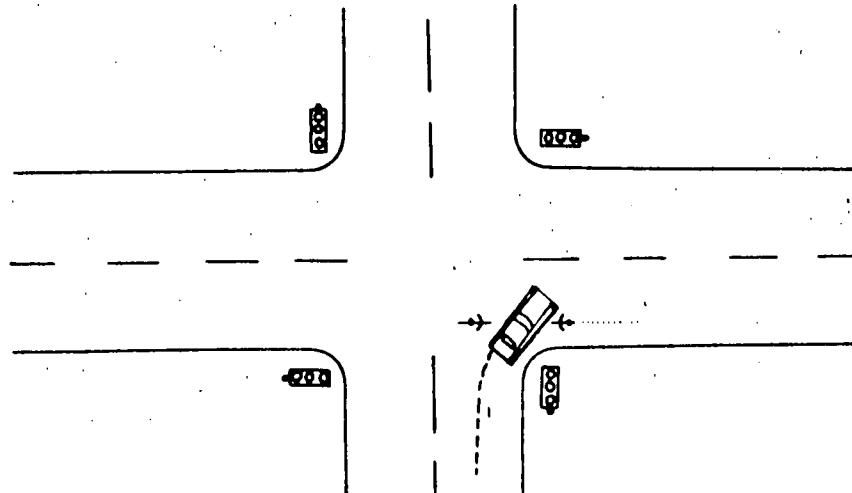
C

ACCIDENT CLASS C
MOTORIST TURN-MERGE/DRIVEOUT



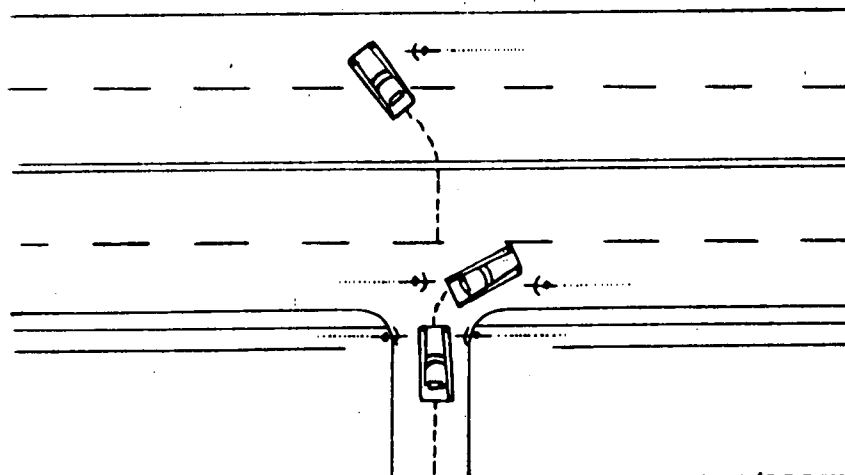
C

ACCIDENT CLASS C
MOTORIST TURN-MERGE/DRIVEOUT



--MOTORIST TURN-MERGE: INTERSECTION CONTROLLED BY SIGNAL

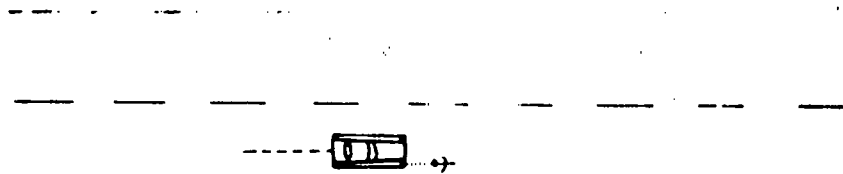
ACCIDENT CLASS C
MOTORIST TURN-MERGE/DRIVEOUT



--MOTORIST TURN-MERGE: COMMERCIAL DRIVEWAY/ALLEY

D

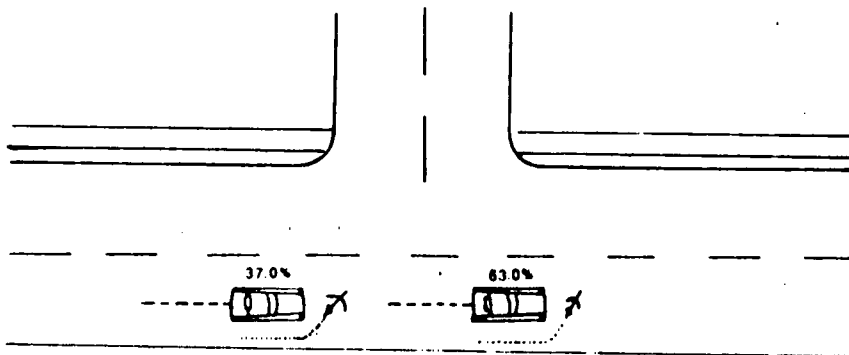
ACCIDENT CLASS D
MOTORIST OVERTAKING/OVERTAKING-THREAT



--MOTORIST OVERTAKING: BICYCLIST NOT DETECTED

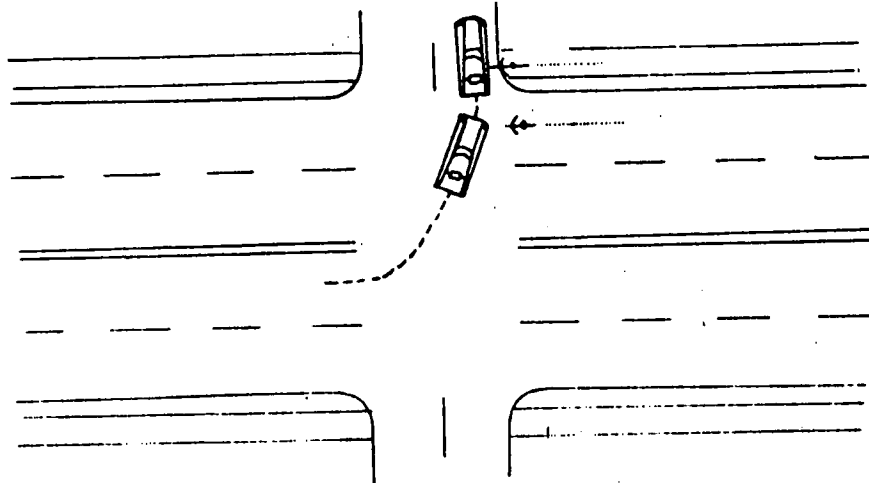
E

ACCIDENT CLASS E
BICYCLIST UNEXPECTED TURN/SWERVE



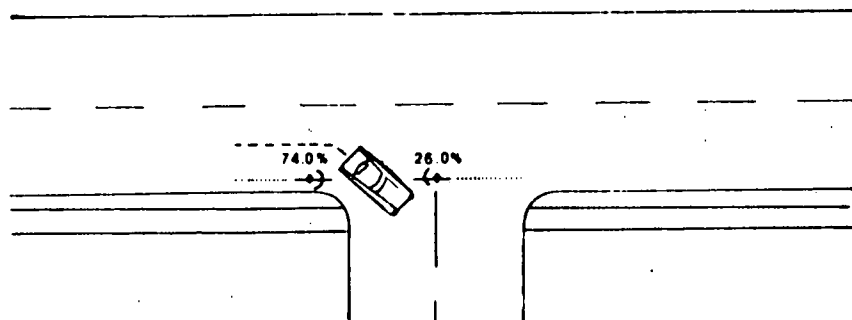
--BICYCLIST UNEXPECTED LEFT TURN: PARALLEL PATHS, SAME DIRECTION

ACCIDENT CLASS F
MOTORIST UNEXPECTED TURN



--MOTORIST UNEXPECTED LEFT TURN: PARALLEL PATHS, FACING APPROACH

ACCIDENT CLASS F
MOTORIST UNEXPECTED TURN



--MOTORIST UNEXPECTED RIGHT TURN

Maryland Bicycle-Motor Vehicle Accident Data, 1973-77:

While there exists no state method for gathering information on all bicycle accidents in Maryland, we do have figures on statewide bicycle-motor vehicle accidents. It is acknowledged, however, that this type of bicycle accident accounts for no more than 2% of all cycling mishaps in the state. The vast majority of bicycle accidents are attributed to falls, striking a fixed object, lack of bicycle handling skill, or even the failure of some component on the bicycle, such as a brake cable.

Still, the figures that follow tell us many facts about bicycling in Maryland during this five-year period, such as the proportion of accidents occurring on state roads, local streets, and even at off-road locations. First- it is clear that bike-car accidents have been increasing an annual 10% in Maryland. The bike-boom sales years of 1973 and 1974 produced a surprising surge in bicycle use and accidents throughout the country, and a glance at the annual changes in accidents statewide and those on state maintained roads tell us that Maryland was no exception to the national trend.

Once the boom subsided, however, the annual figures for 1975 reflect the corresponding drop in cycling activity and accidents. In 1976 and 1977, accidents and injuries again increased to all time highs of more than 2,000 accidents and 1,900 bicyclists injured. On the other hand, bicyclist fatalities peaked in 1975 and dropped dramatically the following year. In 1977 bicyclists fatalities were about the same as in 1973.

Throughout the state, more than 80 per cent of the bicycle fatalities occur to youths aged five to 19, while in Baltimore City, this age group accounts for about 60% of the cycling deaths. There is also approximately equal representation from each of the age groups in this span: 5-9, 10-14, 15-19. Youths in this age span also suffer 80 per cent of the injuries, a proportion far in excess of what this group's cycling activity would suggest. The chart showing the percentages killed and injured by age group supports these conclusions. (See pages)

Baltimore City comprises a large portion of the bicycle accident problem. Nearly 40% of all bicyclist injuries, and nearly 27% of all bicyclist fatalities occurred in Baltimore City. In 1977, the most recent year available, the city exceeded 40% in the percentages of injuries and deaths in Maryland.

Again in 1977, the statewide annual increase almost reached 20%, with Baltimore City and county roads accounting for the largest part. Of the total statewide bicycle accidents reported, the "off-road" or "non-traffic" categories accounted for only a negligible amount, averaging less than 2% of the total accidents each year. However, off-road bicycle mishaps, particularly among very young children, may comprise a substantial portion of the unreported accidents, and may even be reflected with equal magnitude in the figures of the National Electronic Injury Surveillance

System, a hospital emergency room sampling conducted annually by the U.S. Consumer Products Safety Commission.

On state-maintained roads, those patrolled by the state police, bike-car accidents account for only 20% of the total reported during the five-year period. On the other hand, state roads were the locations for 52% of all the bicycle fatalities, a figure directly attributable to traffic speeds above 40 mph and resulting high impact velocities. It is suspected that nearly all of these deaths resulted from accidents that included one or more the following characteristics: a two-lane rural road with no shoulders, occurrence at night, no street lighting facilities, inadequate sight distances, poor conspicuity of the cyclist. Other factors which may be present in a substantial number of cycling fatalities on State roads would include an "overtaking" accident and motorist intoxication.

The State Highway Administration's Bureau of Accident Studies has apparently already conducted an informal survey of bicycle-motor vehicle accident locations for the last three years in order to determine if any "clustering" at hazardous points is apparent. This bureau can compile from its records such facts as copies of fatal bicycling accident reports, time of occurrence, type of roadway, weather conditions and type of accident. Perhaps these aspects can be gathered as part of a periodic reporting system to determine if engineering or enforcement measures can be implemented at selective locations.

In spite of listing more than half the cycling deaths, state roads for the last two reported years registered a 61.5% drop in these fatalities. Perhaps it is an indication that an effective response has been developed, along with the postbike boom drop in recreational bicycling. Injury accidents account for 19% of the statewide total on state-maintained roads, but it is again judged that their severity is greater than those on local roads due to high impact velocity.

Eighty per cent of all bike-car accidents for the five-year period occurred on the local road systems of Maryland, including those in Baltimore City. So-called "possible" injuries, as opposed to observable ones, made up a substantial portion of this figure, however. Low impact velocities are generally true of accidents on this type of road, where traffic speeds average less than 40 mph. Except for 1975, the accident rise on local roads has ranged from 12% to 17% each year. Property damage figures from accidents on these road systems jumped an astounding 875% (8 to 78) between 1975 and 1976, and may be due to a change in police reporting procedures or even simple error.

Baltimore City has always conducted its research into traffic accident figures separately from the ones compiled by the SHA Bureau of Accident Studies. The magnitude of bike-car accidents in the state's largest city would seem to make such a separation mandatory. On the other hand, the city numbers are included in the Maryland Automated Accident Reporting System administered by

the Maryland State Police. If the MAARS system can be extended to the aspects of accident study, such as location and accident type, that the SHA bureau is interested in, then the benefits of this knowledge could lead to a more adequate response to cycling injuries and deaths in the form of countermeasure enforcement and education programs, directed at a particular community or cycling age. Because its annual increase of 20% in bike-car accidents is twice the annual rise in the rest of the State, it is recommended that such a study and action program be implemented with funds available through the Transportation Safety Division of the Maryland Department of Transportation.

Bicycle Report 2: Bicycle-Motor Vehicle Accidents --
Statistics and Strategies for Reduction. Baltimore, Md., :
Regional Planning Council, June 1978.

This report examines bike-car accidents in Baltimore City, Anne Arundel County, Baltimore County, Harford County, and Howard County for the year 1975 and 1976. The statistics reveal that accidents of this type in the Baltimore Region rose 7%, with 60% of all collisions occurring in Baltimore City. Baltimore City had 72 bike-car accidents per 100,000 residents, the highest in the region, while Carroll County had the lowest rate, with 12 accidents per 100,000 residents. One-third of all the reported accidents involved cyclists between 10 and 14 years of age, and one-fourth involved cyclists between 15 and 19. A comparison with age distributions from 1971 and 1972 showed a substantial rise in accidents among cyclists aged 20 and older, from 9% of the total in those years to 16% in 1976. In that same year, about 30% of the region's reported bicycle-motor vehicle accidents occurred in poor weather or less than full daylight. As for location, almost two-third of the accidents happen in or near driveways or intersections.

The report recommends that strategies include bicycle safety education for all ages, with instruction for children and teenagers held in the schools. Courses for adults are recommended through the sponsorship of churches, clubs, and even places of employment. Enforcement of bicycling laws and applicable vehicle code provisions is recommended, with tickets to adults and education programs for children. Proper design of bikeways and incorporation of bicycles into roadway design through paved shoulders, wide curb lanes, and bike safe grates are suggested.

Santa Barbara, California, Police Department "Bicycle Warning Card":

This bicycle warning card was adopted by the Santa Barbara Police Department in their bicycle enforcement program, which is described in the "Summary of Selected Bicycle Safety Education Programs." It involves an original white copy and a heavier, yellow file copy. In first offenses, the white copy is sent to the cyclist's home with a letter of explanation, and the yellow is placed in the file. On second or succeeding offenses, the defendant is referred to juvenile court authorities for trial. Cyclists over 16 are referred to the court which tries motorist offenses.

SBPD 215 (3-74)		SANTA BARBARA POLICE DEPARTMENT BICYCLE WARNING CARD		OFFICER / NO.	
DATE	TIME A.M. P.M.				
NAME (LAST FIRST)		ADDRESS		CITY	ZIP
PARENTS		ADDRESS <input type="checkbox"/> SAME <input type="checkbox"/> BUSINESS		CITY	ZIP
LOCATION STOPPED		TYPE BICYCLE:			
		LICENSE NO.		FRAME NO.	
REASON STOPPED (CHECK AS REQUIRED)				S.B. MUNI CODES (CHECK)	
<input type="checkbox"/> 21201 BICYCLE, (a) single wheel brake required, (b) handle bars no higher than operator's shoulders, (c) pedal over 12 inches off ground, and (d) headlight and rear reflector required at night.				<input type="checkbox"/> 10.52.010 BIKE LIC. (NONE)	
<input type="checkbox"/> 21202 BICYCLIST, failure to use right edge of road.				<input type="checkbox"/> 10.52.050 LIC. DECAL (MULTILATED)	
<input type="checkbox"/> 21204 BICYCLIST, (a) must be on permanent seat, and (b) no person on handle bars.				<input type="checkbox"/> 10.40.040 RIDING ON SIDEWALK	
<input type="checkbox"/> 21453(o) Red light, failed to stop for.				ATTITUDE:	
<input type="checkbox"/> 22450(o) Stop sign, failed to stop for.				<input type="checkbox"/> GOOD <input type="checkbox"/> FAIR <input type="checkbox"/> POOR	
V.C.	OTHER V.C. VIOLATIONS (DESC.)		SIGNATURE:		SCHOOL: AGE:
(EQUIPMENT VIOLATIONS MUST BE CORRECTED WITHIN 10 DAYS AND VERIFIED AT SANTA BARBARA POLICE DEPARTMENT JUVENILE DIVISION)					

Report of the Bicycle Law Enforcement Conference, October 26, 1978,
Baltimore City Police Headquarters

Fifty law enforcement officials and bicycle safety educators met on the 9th and 10th floor of Baltimore City Police Headquarters to discuss enforcement's role in bicycle accident reduction; view and discuss the film, "Ride On By" and listen to a summary of the findings of the Dr. Kenneth D. Cross study. This occupied most of the morning.

One of the most interesting accomplishments of the morning was Mr. Edward Armstrong's summary of the proposed bicycle legislation being recommended to the 1979 General Assembly. It was received with approval and understanding, and seemed to a refreshing new light on the whole subject of bicycle traffic laws for the participants.

Harder work followed with an attempt to define "enforcement" and "bicycle law enforcement". Some of the elements of enforcement accepted by the participants were consistency in applying the law to cyclists, the need for registration of bicycles, adequate penalties, positive attitudes of police officers and their superiors, positive attitudes from the courts and elected officials, public education and awareness of the problem, knowledgeable officers, and a sense of reward or recognition for the street officer.

One countermeasure program underway in the City of Havre de Grace, spearheaded by Lt. William Christy, was summarized. Although there is no formal report available to document the decrease in bicycle accidents, it is believed that this program, conducted by the local police, is the only Maryland success in bringing about accident reduction to date.

The afternoon was devoted to small group discussions of the issues raised in the morning session, and those reports are summarized in the "Conclusions and Recommendations".

Individual evaluations of the conference revealed the following opinions:

1. The greatest need lies in improving bicycle law enforcement.
2. The conference went a long way in clarifying the problem.
3. The workshop (Conference) did less to influence feelings about law enforcement in bicycling than anything else.

4. The problem of bicycle law enforcement warrants a great deal more effort than in the past.
5. A bare majority favored future workshops on the subject of bicycle law enforcement.
6. There was a great feeling of personal commitment to making an attempt to improve bicycle law enforcement.
7. A substantial majority of the participants felt the conference was "very good" to "excellent".

Maryland Law Enforcement Conference on the Bicycle

Thursday, October 26, 1978

9:00 A.M. - 4:00 P.M.

Baltimore City Police Department

Headquarters Building

601 E. Fayette Street

Baltimore, Maryland 21202

Sponsoring Organizations: Maryland Citizens Bicycle Study Committee
Baltimore City Police Department
Maryland Department of Transportation
Mayor's Traffic Safety Commission

- 8:30 A.M. - Coffee, Registration, Commissioner's Greeting
- 9:00 A.M. - Enforcement's Role in Bike Accidents Reduction
Donald LaFond, Maryland State Department of Education
- 9:30 A.M. - Showing of film "Ride On By" and Reaction
- 10:00 A.M. - Summary of Bike-Care Accident Types
(Ken Cross Study)
Joseph Gardiner, Community College of Baltimore
- 10:30 A.M. - Summary of the Maryland Citizen Study Committee
Recommendations to the General Assembly
- 11:00 A.M. - Definition of "Enforcement" and "Bicycle Law Enforcement"
- 11:30 A.M. - Report on One Countermeasure Program
Bill Christie, Havre De Grace Police Department
- 12:00 - Lunch
- 1:00 P.M. - Small Group Sessions
- 2:30 P.M. - Report of Spokespersons
Consensus Resolutions
- 4:00 P.M. - Adjournment

Bicycle Law Enforcement Conference Evaluation

Please rank the following from 1 - 5: 5 = greatest; 1 = least

1. To what extent do you feel that bicycle law enforcement should be improved?

1 2 3 4 5

2. To what extent do you feel that this workshop helped to clarify the problem?

1 2 3 4 5

3. To what extent do you feel that the workshop influenced your current feelings about enforcement?

1 2 3 4 5

4. To what extent do you feel that the problem of enforcement warrants more effort?

1 2 3 4 5

5. To what extent would you favor future workshops on this subject?

1 2 3 4 5

6. How committed do you feel at this time to improving bicycle law enforcement or at least making an attempt?

1 2 3 4 5

7. Rank your overall evaluation of the workshop.

1 2 3 4 5

BICYCLE LAW ENFORCEMENT CONFERENCE

LIST OF PARTICIPANTS

Allgood, Dale, Sgt.
Rockville City PD.
Rockville, Maryland 20850

Armstrong, J.E.
M.C.B.S. Committee
7007 Alden Road
Baltimore, Md. 21208

Beavers, W. Wayne, Lt.
Prince George Co. Police
3415 N. Forest Edge Road
Forestville, Md. 20028

Bennett, Bob
Chairman CPHA Transportation
Committee
516 Cathedral Street
Baltimore, Maryland 21201

Bennett, Frank
Baltimore City Department
of Education
3E. 25th Street
Baltimore, Md. 21218

Cochran, Steven T., Deputy
Harford Co. Sheriff's Dept.
P.O. Box 150
Bel Air, Md. 21041

Colston, Barbara W., PFC
Public Relation Officer
Glenarden Police Department
8629 Leslie Avenue
Glenarden, Maryland 20801

Day, William H., Jr., Lt.
Morgan State Police
1700 E. Coldspring Lane
Baltimore, Md. 21239

Dellart Ganie
Regional Planning Council
701 St. Paul Street
Baltimore, Maryland 21202

Emory, Bob, Det. Lt.
Annapolis Police Dept.
199 Taylor Avenue
Annapolis, Maryland 21401

Fischbach, Jack T.
Planning Associate
Baltimore Co. Planning Dept.
Courts Building
Towson, Md. 21204

Franklin, David, Trooper First Class
Instructor Police Academy
Md. State Police
1201 Reisterstown Road
Pikesville, Md. 21208

Freund, A. Kemp, Community Rela.
Divi.
Howard County P.D.
3410 Courthouse Drive
Ellicott City, Md. 21043

Fuss, James L., Chief
Emmitsburg Police Department
Emmitsburg, Md. 21727

Fulker, Gary R., DFC
Harford County Sheriff's Dept.
P.O. Box 150
Bel Air, Md. 21014

Fulton, Frank
Public Affairs
DOT P.O. Box 8755
BWI Airport, Md. 21240

Gardiner, Joseph
1421 John Street
Baltimore, Maryland 21217

Gast, George J. Patrolman
Baltimore County Police
308 Washington Avenue
Towson, Md. 21204

Grzywacz, Thomas W., CPL
Traffic Safety
District Heights Police Depart.
2000 Marbury Drive
District Heights, Md. 20028

Giannini, Albert F., OFC.
Belair Police Department
39 Hickory Avenue
Belair, Maryland 21014

Humphrees, Ronald E., PHM
Ocean City Police Dept.
107 Dorchester Street
Ocean City, Maryland 21842

LaFond, Donald
Md. Dept. of Educ.
P.O. Box 8717
BWI Airport, Md. 21240

Lewis, Pat Barbara
Takoma Park City PD
2500 Maple Avenue
Takoma Park, Md. 20012

Llewellyn, G.F.
Frostburg City Police Dept.
37 Broadway Street City Hall
Frostburg, Md. 21532

Lipps, Ronald
DOT Safety
P.O. Box 8717
BWI Airport, Md. 21240

Lowry, Albert C. Jr., Lt.
Hagerstown Police Dept.
4th Floor-City Hall
Franklin & Potomac Sts.
Hagerstown, Md. 21740

Margrabe, Mary
203 Thomas Avenue
Frederick, Md. 21701

Marks, Jeffrey H.
6 Valdivia Court-K
Rockdale, Maryland 21207

McHenry, Steven R.
Md. State Highway Admin.
300 W. Preston Street
Baltimore, Maryland 21201

Moe, Stephen D., Officer
Laurel City P.D.
350 Municipal Sq.
Laurel, Maryland 20810

Morris, George J., Chief
Brunswick Police Dept.
20 "A" Street
Brunswick, Md. 21716

Miller, William F., Jr., Capt.
Brunswick Police Department
20 "A" Street
Brunswick, Md. 21716

Nelson, James R.
DOT Planning and Development
P.O. Box 8755
BWI Airport, Md. 21240

Overstreet, John T.
7934 Quarterfield Road
M.C.B.S. Committee
Severn, Md. 21144

Pfaff, J.C.
Frostburg City Police
37 Broadway City Hall
Frostburg, Md. 21532

Plaine, Robert W., Sgt.
Baltimore Police Dept.
Traffic Safety Education
601 E. Fayette St.
Baltimore, Md.

Parker, Theodore, Co. Jr.,
Corporal
Montgomery Co. Police
School Safety Section
2350 Research Blvd.
Rockville, Maryland 20850

Rifenberg, Ronald B. Patrolman
Hyattsville City Police
4307 Jefferson St.
Hyattsville, Md. 20781

Roles, Carroll L.
Traffic Division, H.C.P.D.
3410 Courthouse Drive
Ellicott City, Md.

Shook, Hermann D., Chief
Thurmont Police Dept.
P.O. Box 385
Thurmont, Md. 21788

Stoner, Thomas L.
Chief of Police North Beach
P.O. Box 196
North Beach, Md. 20831

Tarr, William
DOT Safety
P.O. Box 8755
BWI Airport, Md. 21240

Mr. Mose Ottenheimer, 2nd
237 E. Redwood Street
Baltimore, Maryland 21202

Mrs. Kay Felder
Mayor's Traffic Safety Education
Baltimore City Public Schools
3 E. 25th Street
Baltimore, Maryland 21202

MARYLAND BIKE-CAR ACCIDENT DATA, 1973-77 SOURCE: SHA BUREAU OF ACCIDENT STUDIES & TRANSP. SAFETY DIV., MDOT	TOTAL ACCIDENTS	PERCENT OF ANNUAL CHANGE	FATAL ACCIDENTS**	PERCENT OF ANNUAL CHANGE	INJURY ACCIDENTS	PERCENT OF ANNUAL CHANGE	PROPERTY DAMAGE ACCIDENTS	PERCENT OF ANNUAL CHANGE	NUMBER INJURED	PERCENT OF ANNUAL CHANGE	NO. OFF-ROAD ACCIDENTS (% OF TOTAL AC.	PERCENTAGE KILLED BY AGE GROUP, 5-YEAR SPAN						PERCENTAGE INJURED BY AGE GROUP, ENTIRE FIVE YEAR SPAN								
												0-4	5-9	10-14	15-19	20-24	25-34	35-OVER	0-4	5-9	10-14	15-19	20-24	25-34	35-OVER	
STATEWIDE (INCLUDES OFF-ROAD)																										
1973	1433	-	15	-	1248	-	NOT AVAIL	-	NOT AVAIL	-	24 (1.6)	2	29	27	26	6	2	8	1	18	37	25	10	6	3	
1974	1992	+39	21	+40	1740	+394	"	-	AT THIS	-	40 (2)															
1975	1576	-20.9	23	+9.5	1372	-21.1	"	-	TIME	-	47 (3)															
1976	1712	+8.6	9	-609	1537	+12	"	-	"	-	42 (2.5)															
1977	2036	+18.9	14	+5.6	1875	+22	"	-	"	-	"															
STATE MAINTAINED ROADS																										
1973	270	-	8	-	219	-	43	-	***	-	N/A															
1974	445	+648	12	+50	374	+708	59	+372	382	+66.1	N/A															
1975	335	-24.7	13	+8.3	281	-249	41	-305	294	-23	N/A															
1976	337	+6	5	-61.5	295	+5	37	-9.8	306	+4.1	N/A															
1977	383	+13.6	5	0	334	+132	44	+18.9	358	+17	N/A															
LOCAL ROAD SYSTEM																										
1973	699	-	5	-	598	-	96	-	619	-	N/A															
1974	809	+15.7	4	-20	700	+17.1	105	+9.4	723	+16.8	N/A															
1975	605	-25.2	7	+75	517	-26.1	8	-92.4	537	-25.7	N/A															
1976	678	+12.1	1	-85.7	599	+15.9	78	+87.5	633	+17.9	N/A															
1977	797	+17.6	3	+200	706	+17.8	88	+12.8	744	+17.5	N/A															

NOTES: *1. DOES NOT INCLUDE OFF-ROAD ACCIDENTS FOR THIS YEAR.

**2. ALL PERSONS KILLED WERE CYCLISTS.

*** 3. INCLUDES A PERCENTAGE OF MOTOR VEHICLE OCCUPANTS.

SOURCES OF BICYCLE
SAFETY INFORMATION
&
SAFETY FILMS

courtesy of:

The League of American Wheelman
19 South Bothwell
Palatine, Il. 60067
(312) 991-1200

Note: Before contacting these sources, check with your local police department, your local bicycle dealers, your state department of education and your state department of highway safety, the latter two located in your state capitol; all of which probably have bicycle safety material in quantity to share with you.

I. BICYCLE SAFETY INFORMATION SOURCES

1. American Automobile Association, your local AAA office, or 811 Gatehouse Road, Falls Church VA 22042 (pamphlets, films, posters, rodeo instructions)
2. National Safety Council, your own state safety council, or 444 N. Michigan Avenue, Chicago, IL 60611 (pamphlets, curriculum, rodeo)
3. Bicycle Manufacturers Association, 1101 15th St. NW, Washington D.C. (pamphlets, posters, rodeo, film catalog)
4. Schwinn Bicycle Company, 1856 N. Kostner Avenue, Chicago, IL 60639 (pamphlets, films, poster)
5. Allstate Insurance Companies, your local Allstate agent (pamphlets)
6. Cycle Safety for PEP Program, Travelers Insurance Company, your local agent (pamphlets, film, rodeo instructions)
7. Aetna Insurance Company, your local Aetna agent (pamphlets, film, filmstrip)
8. Hunt-Wesson Food, Inc., 1645 Valencia Drive, Fullerton, CA 92634 (poster)
9. Army National Guard, your local armory (poster)
10. 4-H Bicycle Program, your local 4-H club, or National 4-H Service Committee, 59 E. Van Buren Street, Chicago, IL 60605
11. National Easter Seal Society for Crippled Children and Adults, 2023 W. Ogden Avenue, Chicago, IL 60612 (pamphlets)
12. Cub Scout Bicycle Program, your local cub scout leaders, or Boy Scouts of America, National Council, North Brunswick, NJ 08902
13. Consumer Product Safety Commission, Washington DC 20207 (pamphlets, posters, curriculum)
14. Bicycle Safety Alert Program, Cranford Police Department, Cranford, NJ 07016 (community education, enforcement)

15. National Committee on Uniform Traffic Laws and Ordinances, 1776 Massachusetts Ave. NW, Suite 430, Washington DC 20036
16. Modern Woodmen Bicycle Safety Program, Modern Woodmen of America, Rock Island, IL 61201 (pamphlets, rodeo instructions)
17. Professional Standards Division, International Assoc. of Chiefs of Police (police inservice training pamphlet)
18. Accident Prevention Committee, American Academy of Pediatrics, P.O. Box 1034, Evanston, IL 60204 (pamphlets)
19. Bike Ed '77 Conference Report, Bike Ed '77 Guide Bicycle Safety Education Resources and Materials; -- \$10.50 per set from National Technical Information Service, Springfield, VA 22151
20. March, 1976 Bicycle Safety Subject Bibliography from Highway Safety Literature; Technical Reference Branch, National Highway Traffic Safety Admin., 400 Seventh St. SW, Washington, DC 20590
21. Cyclateral Thinking Bicycle Planning Atlas, Sprocketman; Urban Bikeway Design Collaborative W20-002 MIT, Cambridge, MA 02139
22. Effective Cycling, John Forester, Custom Cycle Fitments, 782 Allen Court, Palo Alto, CA 96303-- \$7.95
23. League of American Wheelmen Bulletin -- 12 issue monthly issues for \$10.00. 19 S. Bothwell, Palatine, IL 60067

II. BICYCLE SAFETY FILMS

1. "Bicycling on the Safe Side" - junior/senior high
- excellent
color/16mm/16 minutes/1974/\$210 or \$20 day rental
or \$40 week rental.
Ramsgate Films, 704 Santa Monica Blvd., Santa Monica,
CA 90401

demonstrates hazard recognition and evasive
techniques as well as rules and laws; maintenance
tips, bicycle security; teen/adult cyclists

2. "Bike Talk" - upper elementary - excellent
color/16mm/15 minutes/1977/\$200
Sid Davis Productions, 1144 S. Robertson Blvd.,
Los Angeles, CA 90035

Safety taught with humor; fast-paced; well-
received by grade-schoolers

3. "Only One Road, the bike-car traffic mix" -
senior high/adult - excellent
color/16mm/26 minutes/1975/\$75 or borrow free
your local AAA, or AAA Foundations for Safety
8111 Gatehouse Rd. #328, Falls Church, VA 22-42

teaches motorists and bicyclists to share
the roads; stresses greater understanding
and cooperation on part of both to make bike-
car traffic mix less hazardous; six accidents
viewed from bicyclist and motorist angle

4. "One Got Fat" = elementary grades - excellent
color/16mm/17 minutes/1964/\$190
Perennial Education, Inc., 1825 Willow Road,
Northfield, IL 60093

ten bicyclists (monkeys) going to a park
illustrate mistakes which prevent them from
reaching their destination; clearly demonstrates
bicyclist's responsibilities to self and others

5. "Bicycles Are Beautiful" - junior/senior high/
adult - excellent
color/16mm/27 minutes/1975/borrow free
Your local McDonalds

Bill Cosby narrates fast-paced film on
bicycle safety laws, inspection and bike
history; includes audience participation test

6. "Bike People" - elementary grades
color/16mm/11 minutes/1973/\$170 or rental \$15
AIMS Instructional Media Service, P.O. Box 1010,
Hollywood, DA 90028

basic bicycle safety responsibilities, theft
protection, safety equipment, bicycling
safety and fun
7. "On A Bicycle Built for You" - adults -
color/16mm/17 minutes/1972/\$110
Robert Young Motion Pictures Productions, R.R.8,
Box 35, Martinsville, IN 46151

portrays experiences of middle-age couple
cycling for the first time since childhood;
emphasizes fitting ride to correct size bike,
traffic laws, bike maintenance and common
sense riding tips
8. "Bike Safety Quiz" - upper elementary - good
color/16mm/18minutes/1976/\$300 or \$30 rental
American Educational Films, Box 5001, 132 Lasky
Dr., Beverly Hills, CA 90212

animation, stop frame action and simulated
bike emergencies to illustrate safe riding
techniques; safe driving rules and inter-
action between bicyclist and motorists is
emphasized; question/answer format
9. "Bicycle Safety" - upper elementary
color/16mm/12 minutes/1974/\$165 or \$20 rental
Film Fair Communications, 100900 Ventura Blvd,
Studio City, CA 91604

illustrates typical bicyclist hazards,
demonstrates evasive techniques; includes
study guide
10. "Bicycle Safety/You Can Prevent An Accident"
junior/senior high
color/16mm/28minutes/1975/\$300
Lee Stanley Film 17215 Bullock St., Encino,
CA 91316

Lloyd Haynes, "Room 222" TV star, narrates
film covering bicycle rules, laws, hazards;
covers all aspects of bike safety

11. "Bicycle Today/Automobile Tomorrow" - upper elementary/junior high
color/16mm/10 minutes/1969/\$20
Sid Davis Productions, 1144 S. Robertson Blvd.,
Los Angeles, CA 90035

motorcycle police officer shows boy how to
maintain bike, ride correctly; children
demonstrate bike rules and laws

12. "The Bicycle Clown"
B&W/16mm/10 minutes/\$60; also color \$120
Sid Davis Production, 1144 S. Robertson Blvd.,
Los Angeles, CA 90035

bicycle safety

13. "Bikes Are Back" - junior/senior high
color/16mm/9 minutes/1974/\$140
AIMS, P.O. Box 1010, Hollywood, CA 90028

bike maintenance, night bicycling and
visibility, bike path riding, hazard
recognition and reaction time

14. "Everything About Bikes" - elementary grades
color/16mm/15 minutes/1975/\$225 or \$20 rental
Pyramid Films, P.O. Box 1048, Santa Monica, CA
09406

adapted from National Safety Council's "All
About Bikes" curriculum; covers bike history,
rules, safety and maintenance

15. "I'm No Fool With A Bicycle" - elementary grades
color/16mm/8 minutes/1971/\$125
Walt Disney Educational Materials, 495 Rt 17,
Paramus, NJ 07652

Jiminy Cricket teaches bicycle safety; fresh,
amusing, effective

16. "Spokey The Clown And His Magic Bike" -
elementary grades
color/16mm/15 minutes/1973/\$195
Screen Educational Enterprises, 3220 16th ave.
W., Seattle, WA 98119

clown lends taking bike to boy; boy learns
about bicycle safety

17. "Defensive Driving" - upper elementary
color/16mm/12 minutes/1973
Canada Safety Council, 30 Driveway N., Ottawa
Ontario, Canada
- Canadian film teaches bicycle safety and
defensive driving under many conditions
18. "Spinning Spokes" - elementary grades
color/16mm/18 minutes
Mogull's 235 W. 46th St., New York, NY 20036
- high school boy starts bicycle safety
campaign after learning for himself that
bike safety pays
19. "Bike Super Stars" - upper elementary
color/16mm/11 minutes/1976/\$177
Coronet Instructional Films, 65 East South
Water St., Chicago, IL 60601
- Bike Super Stars teach bicycle safety skills
with flair and excellence - their student
becomes accomplished enough to join the Bike
Super Stars
20. "The Bicycle Driver" - junior/senior high
color/16mm/14-1/2 minutes/1973/\$104 or free
loan
\$104 from Jim Lawless, Motion Pictures Consultants,
1545 NE 130th St., Seattle, WA 98125
- free loan from Safeco Insurance Co, Safeco
Plaza, Seattle, WA 98185
- bicyclist/motorists rights/responsibilities
in sharing roads; demonstrates common rules
of the road and bike rights
21. "Bicycle Riding Reminders" - upper elementary
color/16mm/11 minutes/1970/\$170
AIMS, P.O. Box 1010, Hollywood, CA 90028
- rules of the road; demonstrates bike/car
collision between 30 mph car and riderless
bike

22. "Championship Bicycle Safety" - upper elementary
color/16mm/13 minutes/ /\$7 rental
Associated Sterling Films, 600 Grand Ave.,
Ridgefield, NJ 07657

fast-paced film emphasizes cycling skills
for everyday cycling situations; pros
practice to be champions; clowns riding
antique bikes illustrate alertness to avoid
hazards

23. "If Bicycles Could Talk" - elementary grades
color/16mm/13 minutes/1967/free loan
Audio-Visual Services, Aetna Life and Casualty
Co., 151 Farmington Ave., Hartford, CT 06115

parents responsibility in children's bike
ownership; bicycle safety rules and mainte-
nance illustrated for children

24. "Bicycle Driver Education, we must do more"
community leadership audience
color/16mm/20 minutes/1975/\$225 or \$5 rental
\$225 from Valdhers Films, 3060 Valleywood Dr.,
Dayton, OH 45429
\$5 rental from Associated Sterling Films,
600 Grand, Ridgefield, JN 07657

promotes bicycle safety education in shcool
curriculum; demonstrates current kinder-
garten through college programs; public
motivation film

25. "Can you Stop On A Dime?" - elementary grades
color/16mm/10 minutes/1972/\$130
Sid Davis Productions, 1144 S. Robertson Blvd.
Los Angeles, CA 90035

children participate in series of tests to
demonstrate reaction/stopping time while
running, walking and bicycling; shows
pedestrians, cyclists and motorists cannot
stop on a dime

26. "The Day The Bicycles Disappeared" - elementary
grades
color/16mm/14 minutes/1967/\$46 or free loan
your local AAA or AAA, 8111 Gatehouse Road,
Falls Church, VA 22042

all the bikes in town disappear; young boy
finds the bikes have joined together to
protest their owners hazardous bicycling
practices; children must pledge to bike
safely before bikes will go home

27. "Get To Know Your 10-Speed" - senior high/adults/
bike clubs
color/16mm/19 minutes/1977/\$300
Oxford Films, 1138 N. Los Palmas Ave., Hollywood,
CA 90038

bicycling for fun, exercise; safety rules,
maintenance, techniques, gear shifting,
braking

28. "Ride On" - junior/senior high
color/16mm/15 minutes/1972/\$235
McGraw-Hill Text Films, 1221 Ave. of the
Americas, New York, NY 10020

bicycle safety through slapstick comedy;
bike history, rules

29. "Bicycle Rules of the Road" - upper elementary
color/16mm/11 minutes/1965/\$170 or \$15 rental
AIMS, P.O. Box 1010, Hollywood, CA 90028

slow motion photography shows driver reaction
time and stopping distance in collision tests
between bike and car moving at 25 and 47 mph

30. "Just Like A Car" - upper elementary
color/16mm/12 minutes/1971/\$85 or borrow free
\$85 from Film Loop, Inc. P.O. Box 2233,
Princeton, NJ 08540

borrow free from local Travelers Insurance Agent

fast-paced film illustrates defensive bicycling,
scanning for traffic, communicating
with motorists through signaling and eye
contact

\$110 package from Film Loop includes film,
teacher's guide, lesson plans, 6 posters and
35mm color filmstrip

31. "Planning a Community Bike Program" - community
leadership audience
color/16mm/27 minutes/ /\$7 rental
Associated Sterling Films, 600 Grand Ave.,
Ridgefield, NJ 07657

32. "Bicycle Drivers Don't Have to Have Accidents" -
junior high
color/16mm/13 minutes/1976/\$215
Golden Coast Films, 20044 A Alameda Padre Serra,
Santa Barbara, CA 93103

typical accidents involving junior high boys
are described and evasive techniques recommended

SECTION V

REPORT ON MOPED REGULATIONS

	<u>Page</u>
. Introduction	1
. Issues	4
. Appendix	6
Summaries and Impressions Obtained From the First National Moped Conference	A-1 & A-7

INTRODUCTION

At the recommendation of Maryland's two representatives to the First National Conference on Mopeds held in June, 1978, at Anaheim, California, a fifth subcommittee to deal with the moped question was appointed. The members of this committee (see Section VI) all had special knowledge and interest in reviewing the various aspects of the situation created by the introduction of the moped into the American traffic mix.

Although appointed late, this group quickly got to the task at hand, meeting for the first time on July 17, 1978, and finishing its work on August 16, 1978. Due to the extreme time limitations imposed on this subcommittee, it is quite probable that some areas of concern were passed over. Nevertheless, a rather comprehensive report was sent to the Study Committee for review and the material which follows is the result of that review.

The Committee agreed that the following items need no action until a comprehensive review has been made.

- (1) Registration.
- (2) Titling as a motor vehicle.
- (3) Registration of moped dealers with the Motor Vehicle Administration.
- (4) Operator's license requirements.
- (5) Insurance requirements.
- (6) Maximum speed.
- (7) Definition of the moped.
- (8) Inspection.

It is felt that Maryland's approach to the regulation of this new vehicle has been reasonable and practicable and also flexible enough to face-up to the problems this motorized bicycle introduces. As more experience is gained with the growth of the moped in this country, there will, of course, be revisions in our thinking and regulation of this energy-saving mode of transportation. It is with the future in mind that the views of the Maryland Citizens Bicycle Study Committee are presented for the consideration of those in a position to influence the growth and regulation of this relatively new vehicle in our State.

There are several areas which the Committee feels should be handled by an increased educational effort on the part of the State. These areas are:

- (1) Head and eye protection (helmets and face shields).
- (2) Turn indicators.
- (3) Use of headlights during daylight hours.
- (4) Speedometer/odometer.
- (5) More than one rider.
- (6) Drunk driving laws.
- (7) Point system violations.

The Committee believes that while the first four of the above listed items are probably desirable to most moped users, they are not universally so, and that the lack of them presents no clearly definable threat to the public. Mandating these items for mopeds could also set an unfortunate precedent for bicycles since mopeds are defined as bicycles.

The last three items on the list are currently covered by Statutes already on the books. An increased awareness of their existence is all that is necessary.

Legislative change should be sought in several areas including vehicle standards and road use and moped use of bicycling facilities. These areas and recommendations are discussed separately below.

Road Use

- (1) TOLL FACILITIES - Mopeds should be treated in the same manner as bicycles at toll facilities. Escort services such as those provided on the Bay Bridge should be better publicized to the public.
- (2) LIMITED ACCESS HIGHWAYS - Mopeds should continue to be restricted at this time. The moped is a new vehicle on the American highway. Until all highway users become more experienced, the integration of the moped into our transportation system should continue on roads with lower speed limits and, theoretically, less traffic. This policy should be reviewed at regular intervals to see if a change is warranted, especially if changes are made relative to bicycle use of limited access highways.
- (3) USE OF SIDEWALKS AND CLASS I FACILITIES (Separated Bike Path or Bike Trail).
It is the opinion of the Committee that mopeds should be banned from these areas and that the local option provision on sidewalk use by bicycles be rewritten to specifically exclude mopeds. Mopeds and pedestrian traffic do not mix and could lead to some potentially hazardous situations. All bicycling facilities that exclude mopeds be so posted.
- (4) USE OF CLASS II FACILITIES (Delineated Bike Lane on the highway) and Class III Facilities (Signed Bike Route).
The Committee feels that mopeds should be allowed to use these facilities as the general nature of on-highway facilities is such that they are being used by commuting cyclists and not by recreational riders and children. The moped is used in a similar manner and is compatible with the type of cyclist using these facilities.

VEHICLE STANDARDS

- (1) It is recommended that Maryland vehicle law be modified to accommodate 2 hp. machines as they are more adaptable to the urban/suburban environment in which the vast majority of mopeds are being used. Two hp. machines have a speed capability of approximately 30 mph. which allows them to move with traffic on almost all urban roads. Two hp. machines still comply with all Federal specifications. At this point, 2 hp. machines are allowed in almost half of the states where mopeds are legal. All the most recent States to enact legislation have approved 2 hp. machines. We feel that uniformity in this area is to be desired as Maryland attracts newcomers and visitors from all over the nation.
- (2) The committee recommends that the Federal standards for lighting and reflectors be made a part of Maryland law. This would assure that all mopeds operating in Maryland would be equipped with operating headlamp, tail lamp, and brake light and have visible reflectors on the sides and rear. This regulation would assure that all highway users could see each other. It would also allow police to enforce stoplight and running light requirements.

The Committee believes that little can be gained at this time by making any other parts of the federal standards governing the construction and equipment of mopeds into Maryland law. Current statutes provide for items such as speed modification and noise control.

The Committee, as already noted, feels strongly that material emphasizing the responsibilities of motorists to moped operators and bicyclists and the rights of the latter two groups of road users should be incorporated in the Driver's Handbook. Education of auto drivers regarding the limitations of two-wheeled vehicles and the rights and responsibilities of their riders is of paramount importance to the safety of all highway users.

The Committee had hoped to include the official report of the First National Moped Conference as an appendix to this section of the report. This is not possible at this time. In lieu of that report, the reports of the two Maryland representatives to the Conference are included. It is believed that these reports will be useful to those wishing to pursue in greater detail the issues involved in the regulation of the moped.

Perhaps a listing here of some of the more important issues which surfaced at the Conference in Anaheim will provide a quick overview of the situation. Some of the questions have already been answered legislatively. Others may well be subject to review and change. Still others may only be on the legislative horizon.

VEHICLE STANDARDS (Cont'd.):

The following compilation of questions is not intended to be a definitive listing, but it is deemed to be representative of the items which seemed to most concern the conferees. Indications of the apparent trends in the search for answers to the questions are found in the aforementioned attached reports.

Some Moped Issues

1. What engine size, performance and speed capability should be permitted?
2. Will automatic clutch and operable pedals be a requirement?
3. What minimum age should be required for operators?
4. To secure an operator's license, should a demonstration of capability to safely control a moped be required in addition to the usual visual tests and questions on the rules of the road?
5. Should registration be compulsory?
6. Should tags be required?
7. If inspection of motor vehicles is a state requirement, should mopeds be included in the requirement?
8. Should liability insurance or financial responsibility be required by law?
9. Should electro-mechanical turn and stop signals be required?
10. Should speedometer-odometer be required?
11. Should rear view mirror(s) be required standard equipment?
12. Should the head light be lighted during the day as well as during darkness?
13. Should more than one person be permitted to ride on a moped?
14. Should helmets and eye protection be required?
15. Should mopeds be treated as a special type of lightweight motorcycle or as a special kind of bicycle?
16. Should federal design and equipment standards be incorporated into state law?
17. Should moped laws be more stringent than bicycle laws, but less strict than motorcycle laws?

18. Should a speed limit be set on the speed at which a moped can be operated (as distinct from speed capability)?

19. Should the wearing of protective clothing be required?

20. Is the design of the existing fuel tanks and filler caps safe?

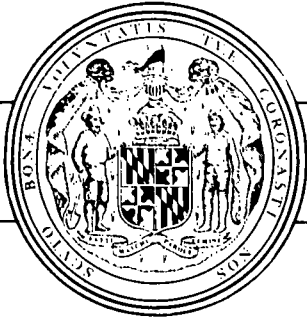
21. Are special parking facilities needed for mopeds?

22. How should dealers be registered or classified?

23. Should moped operation be included in driver education classes?

24. Should accident reporting where mopeds are involved be compiled separately?

APPENDIX



Maryland Citizens Bicycle Study Committee

June 2, 1978

Mr. John R. Rost, Chairman
Maryland Citizens Bicycle Study Committee
8617 Bunnell Drive
Potomac, Maryland 10854

Dear John:

Attached is a report on certain aspects of the First National Moped Conference held May 10-12, 1978 in Anaheim, California which I attended as the representative of the M. C. B. S. C. I have given considerable thought concerning the format of this report. A truly comprehensive report would take much time in compiling, and I want to get something to you quickly. Furthermore, I have copies of a number of the papers which were delivered, and these of course are available to you, the committee members and interested state agencies. Finally, the official proceedings go to press July 1, 1978 and will be available soon afterward at a cost of approximately \$20.00. Therefore, instead of attempting to recreate from my own notes material already, or soon to be available, I am dividing the report into two parts. In the first I shall attempt to indicate quickly questions and trends and some of my own thoughts concerning moped usage and regulation which I believe may be of immediate interest to the Maryland Citizens Bicycle Study Committee. In the second part, I have attempted to convey a few of the interesting remarks I remember from the many fine sessions which I attended.

In addition, a copy of the program and a list of the participants are included. These may have some reference interest.

I have finally developed a personal position on the matter of how our Committee should proceed with the topic of mopeds. It is my recommendation that the Study Management Committee appoint a fifth subcommittee to study the problems involved in the integration of the moped into the traffic mix on Maryland's streets and highways.

The membership of our existing Committee and Subcommittees, to the best of my knowledge, is almost totally human powered bicycle oriented and experienced. It is my view that any group attempting to study moped use and regulation should include those who are actively using, selling and repairing mopeds. This

Mr. John Rost
Page two
June 2, 1978

membership should include both recreational and commuting riders, and perhaps if there are any, those using mopeds in urban areas for messenger and delivery service. I am convinced that we need input from practicing moped riders if we are to develop meaningful recommendations concerning mopeds in Maryland.

Sincerely,

J. E. Armstrong
7007 Alden Road
Baltimore, Maryland 21208

JEA:mm
Attachment
cc: Paul Farragut
James R. Nelson
Steven McHenry
Reymond J. Salehar

THOUGHTS AND COMMENTS FROM THE FIRST NATIONAL MOPED CONFERENCE

May 10-12, 1978 Anaheim California

Part I of a Report by J. E. Armstrong

1. The regulations of the use of mopeds is a state function, not federal. Roads and traffic mix vary greatly among the 50 states. What may be reasonable and safe in one state may not be sensible and feasible in another.

Regulation by sub-divisions within states has been abandoned.

However, a certain amount of conformity, especially in design and equipment, is going to evolve. With a variety of conflicting concepts as to what a moped can be, a moped bought in say Virginia, might well be illegal if driven in a neighboring state as Maryland.

Knowledge of the rules of the road which differ between states can be overcome by study and signing, but the situation can only be confusing and dangerous.

It is my view that cooperation among the states will eventually develop, and a rather consistent national pattern on moped definition and regulation will evolve.

2. It is my belief that Maryland's cautious approach to the regulation of mopeds has been correct. The rule of thumb is that a 1 bhp engine can move a moped at 20 mph; 1.5 bhp goes 25 mph; and 2 bhp goes 30 mph. The 50 cc piston displacement is generally accepted as a maximum limit. Of 29 states defining engine capacity limits, 27 use the 50 cc measure. On brake horsepower the picture is less universal. Of the 38 states having special laws to regulate mopeds, 32 specify brake horsepower limits. The limit in 4 states is 1 bhp; 14 have a 1.5 bhp limit and 14 permit a 2 bhp limit.

Beginning this July, Maryland will use the 50 cc and 1.5 bhp limits.

The question of maximum speed is, I believe, bothersome and easily misunderstood.

Only Florida limits the speed at which a moped may be operated. The attempt during the 1978 session of Maryland's General Assembly to adopt a similar provision did not succeed. The consensus seems to oppose this type of regulation.

On the other hand 36 of the 38 states regulating mopeds have set a speed capability limit. Some view this as redundant in that permitted engine size and power output rather effectively limit speed capability. Methods of measuring speed capability are not universally in effect. Grade, length of run to accelerate and weight of rider and load greatly affect the speed capabilities of mopeds. On a level road, my tests indicate that weight of the rider is a really important factor.

3. It is suggested that the Committee develop a definition for mopeds which it believes best suited for this state. This may or may not agree with present state law. It is suggested that a starting point is paragraph 3.1 of Regulation VESC-17 of the Vehicle Equipment Safety Commission. Agreement with neighboring states should be investigated. It is possible that within the next year or two the NHTSA will define moped.

4. It is suggested that the requirements of automatic clutch and operable pedals be incorporated in the definition. The automatic clutch permits both hands to remain on the handlebar near speed and braking controls. In my view, operable pedals make it easy to start a stalled engine, accelerate quickly and permit human power to help the tiny engine up steep grades.

5. It is suggested that our state law concerning required equipment on mopeds may be deficient. As present, the equipment specified for bicycles is all that the law requires.

The federal government has established minimum requirements for design and construction and equipment of mopeds, but these requirements, like those for bicycles must be met only at the time of the first retail sale. The new owner could remove all items except those required by our state bicycle law and be legal. It might be wise to study the desirability of strengthening our state requirements.

The continued existence and maintenance of the equipment is not within the purview of the federal agencies.

It is suggested that this Committee consider the advisability of incorporating into state law the provisions of VESC-17, FMVSS-122, FMVSS-123 and FMVSS-108. The latter, FMVSS-108 has to do with reflectorization and lighting. One of the problems the moped rider must contend with is the low profile and visibility of the moped compared with the larger automobiles and trucks. Perhaps headlights should be required both day and night. This might require slight design and equipment changes.

6. The moped is designed and constructed as a light-weight, low-powered one person vehicle. State law currently permits bicycles to carry extra riders if there are extra seats. The appropriateness of this law, which currently applies to mopeds is, in my view, highly suspect. The question of whether a moped may carry passengers is a must for investigation and decision. The

consensus seems to be that unless it is forbidden, it will occur. It is generally agreed that the moped is not designed for two riders. The tires are inadequate, and the handling characteristics are adversely affected by doubling the weight on top of the vehicle. A decision on this problem must be made.

7. The necessity for a speedometer and odometer as required equipment is an interesting question to investigate. Although speed capability on the level is low, downhill speeds may increase dangerously unless the moped operator is aware of achieved speed. Capability of brakes, while adequate at normal speeds on the level, may not be sufficient at downhill speeds to handle a panic stop. Conversely, slowing down on upgrades may impede normal traffic flow and a speedometer may make the moped rider aware of his decreasing speed.

8. State bicycle law does not require rear-view mirrors for either bicycles or mopeds. It seems prudent that this piece of equipment should be required.

9. An analysis of moped collisions indicates that when the frame and fuel tank is twisted and deformed, the fuel tank cap quite often "pops" off, spilling fuel on machine and rider. It is possible that a different design for the fuel tank and filler neck and closure is desirable.

10. Of all protective clothing and equipment such as gloves, body covering, boots, eye protection and helmets, only one item, the helmet, has been considered for legislative control. Only 2 states of the 38 regulating mopeds have a mandatory helmet law: Georgia and New York (Class B only).

11. All 38 states regulating mopeds have a minimum age requirement: 21 set 16 years; 10 set 15 years; 5 set 14 years; and only 2 go below 14 years.

12. As to operator license requirements, 31 of the 38 states involved accept any valid driver's license. Six states require no license at all, but one of these, Hawaii may change. The remaining state, Texas, accepts a separate license, requiring a written test only.

13. There appears to be a growing trend toward requiring registration. At the moment, of the 38 states involved, 18 do require registration, while 20 do not. The fees are generally lower than for automobiles or motorcycles, ranging from \$3.00 to \$12.00 a year.

14. Of the 38 states regulating mopeds only 6 require inspection.

15. Liability insurance is required in only 3 of the 38 states involved: New Jersey, Pennsylvania and New York (Class B). However, 14 states do require compliance with financial responsibility laws.

16. State laws vary, but there are similarities. There may never be total uniformity among all 50 states and the District of Columbia, but depending upon the trends in use and the impact of federal edicts, a certain trend to conformity may gradually evolve.

17. Predicting the future is a risky business, perhaps better left to Nostradamus, and such a forecast may not be necessary. Nevertheless, I will hazard the following situation by 1990:

- (a) Maximum performance permissible: 50 cc, 2 bhp and 30 mph.
- (b) Automatic clutch and operable pedals will be required.
- (c) Minimum age: 16 years.
- (d) Operator license required.
- (e) Registration required.
- (f) Tags required.
- (g) Inspection required (if required for automobiles).
- (h) Some form of insurance or financial responsibility will be required.
- (i) Electro-mechanical turn and stop signals will be required.
- (j) Rear view mirrors will be required standard equipment.
- (k) Headlight on during the day as well as night will be required.
- (l) Only one rider will be permitted.
- (m) Helmet and eye protection will be required.
- (n) There will be a tendency to compare mopeds with light-weight motorcycles rather than with human-powered bicycles.
- (o) Since federal pre-emption ends at first retail sale, more states will incorporate federal design and equipment standards into state law.
- (p) Moped regulations will be stronger than bicycle laws, but less strict than motorcycle laws.

BRIEF POINTS FROM VARIOUS SESSIONS
at the
FIRST NATIONAL MOPED CONFERENCE
May 10-12, 1978 ANAHEIM, CALIFORNIA

Part II of a Report by J. E. Armstrong

Session 1, Overview of the Moped Mode of Transportation.

"Mopeds, the Foreign Experience" -- Stuart Monro, Transport, Canada.

A copy of this paper is already at hand and available for reference.

Mr. Monro reviewed accident statistics and attempted to point out some countermeasures. On the subject of accident statistics concerning mopeds, I have, after listening to a number of speakers, reached the opinion that accurate statistics on moped accidents will come only after mopeds achieve a separate category in reporting. Until that is universally achieved, I remain unimpressed by mere gathering and compilation of accident frequencies.

For some reason, I was impressed by a relatively small study made by the AAA of Southern California. A copy of this study has been requested.

Mr. Monro pointed out that moped design varies from country to country.

The Netherlands, with the greatest percentage of Mopeds, has most of the European moped fatalities.

Younger people have most of the casualties.

In urban situations, the speeds are lower and injuries in accidents are less severe. In rural areas speeds are higher and moped riders' injuries are more severe.

Countermeasures are: helmets, operator licensing, training of both motorists and moped riders concerning the hazards mopeds bring to the road, and minimum and maximum age limits. He believes that drunk driving laws should apply to moped operators as well as to the motorist. Inspection of mopeds is warranted.

He believes that the use of headlights in the daytime does increase visibility.

(The use of helmets is a real problem for ladies. They usually refuse to ruin an expensive and charming hair-do by stuffing it into the confines of a helmet. They prefer not to ride if they must use a helmet. J.E.A.)

-000-

Dairl Bragg, Executive Director, Vehicle Equipment Safety Commission.

A copy of VESC #17 and the supplementary FMVS Standards - 108, - 122 and - 123 are at hand and available for reference.

Forty-two states and the District of Columbia are now members of the Commission. Their aims are: (1) to develop uniform equipment rules; (2) To promote the use of improved equipment; (3) To indicate ways to achieve enforcement of rules. VESC #17 covers the original equipment market, the aftermarket and conversions.

-000-

Hugh H. Hurt, Jr., Institute of Safety and Systems Management, University of Southern California.

This speaker noted a number of types of moped accidents and, as I heard it, found that moped riders were less frequently at fault than motorists. The California Highway Patrol did not agree with him.

Some of the items which concerned him are:

- (1) No lights on moped at night. He would like to see head-lights on all the time that the moped is in use.
- (2) Is opposed to a passenger riding on moped.
- (3) Moped riders are not alert to improper actions of motorists. They do not ride defensively.
- (4) Fuel tank needs redesign, especially filler cap and neck.
- (5) Moped riders lack experience and training. He suggests training, examination and licensing as countermeasures.
- (6) Severity of injuries is low, but he believes that at least a lightweight helmet should be worn.

James H. Kell, President of JHK & Associates (a consulting firm).

The moped is generally excluded from Class I Bikeways. Class II are used by mopeds, and there is some conflict. Class III are used by mopeds, and there are no real problems.

The low visibility of the moped is a problem.

A radical thought is the exclusion of mopeds from main routes during rush hours.

On country roads, motorists are not expecting a moped to appear and are often too surprised to cope; so moped rider must always be alert.

Mopeds are generally excluded from throughways. They don't belong on them; they slow flow of traffic. There is some use of throughway shoulders by mopeds in some areas.

Street intersections are one of the major problems. Bicycle and moped riders run through stop and yield signs and lights. They hate to stop.

Moped headlight on at all times is a good idea.

Awareness is a must for motorists, moped rider and bicyclists.

Special parking facilities are needed. Bicycle parking facilities are not always useful. Using a whole auto parking place is wasteful.

-###-

Session 2: Legislation, Regulation and Enforcement.

Edward F. Kearney, Executive Director, National Committee on Uniform Traffic Laws and Ordinances.

He quoted a mass of facts on moped regulations in the United States; too much for note-taking and no paper yet available. However, a copy of Pub. #050-003-00301-8, State Laws on Mopeds and Motorized Bicycles, Vol. VII, No. 2, NHTSA (\$2.20) is being secured and will be in file and available for use.

No state permits use of mopeds on sidewalks.

At a recent conference in Chicago a special committee took a position on a number of important issues. I do not guarantee my reporting, as the speaker spoke very fast. However, I believe them to be correct. The membership of the N.C.U.T.L.O. has yet to vote on these recommendations:

1. RegistrationYes
2. Titled as Motor VehicleYes
3. Dealer to be registered as motor vehicle dealer..Yes

4. Operator licenseYes
(of some kind. Up to individual states as to classes)
5. InsuranceYes
6. Eye ProtectionNo
7. Need for equipment rules as a part of the UVC ...No
8. Use of sidewalksNo
9. Use of recreational trailsNo
10. Use of bicycle laneYes
11. Full use of vehicle laneNo
12. Special passing ruleNo
13. Make left turns like bicycle ("Big" left turn ...Yes
as well as usual)
14. Equipment required for safety (Not yet drafted)
(See 7 above)
15. Use bicycle parking areasYes
16. Wear helmetYes

-000-

Captain William Oliver, California Highway Patrol.

A copy of this paper is already at hand and available for reference.

Since 1977, California has kept moped accidents in a separate category. Out of 1,119 moped accidents, the moped operator was determined to be at fault in 552 (49.3%). The 15-19 year old age group account for 613 (54.8%). His paper includes figures.

California classifies mopeds as motor vehicles. They are not subject to registration. This may change. He feels that registration is imperative for effective control.

A bill (HB 2147) now before the California Legislature will include federal design and equipment standards in California law. Also, a rear view mirror will be required. The new law would permit a passenger if a seat and foot rests are provided. He does not fully like this, as he thinks that a passenger alters handling characteristics with some hazard to riders. (The law is a compromise with reality. I think it is bad.)

Most common riding errors are:

- (1) Right-of-way violations.
- (2) Failure to observe signs and signals.
- (3) Failure to give hand and arm signals.

He wants to educate the public to stop thinking of mopeds as bicycles and to start treating them as motor-driven cycles.

He does not think mopeds should exceed 30 mph.

He favors helmet usage (Z90 standard).

Parents should be made aware of license requirements.

-ooo-

Larry B. Lindauer, Director, Motorcycle Research and Projects,
Southern Illinois University at Carbondale.

Mopeds in Illinois are called motorized pedalcycles and are
classed as motor vehicles.

The moped law is a sub-division of motor driven cycle law,
with certain equipment exceptions.

Mopeds must be capable of being pedalled.

They must have automatic clutch, not be over 50 cc in
displacement and be limited to a 30 mph capability.

Registration is \$12.00.

No helmet or eye protection is required, nor is any protective
clothing.

They are considering requiring headlights to be on during day
as well as night.

-ooo-

Joseph H. Sanders, New York State - Department of Motor Vehicles

Although New York state law recognizes three classes of
mopeds, only two exist - B and C. (B class are limited to 30 mph
capability and C class to 20 mph).

It costs \$5 per year to register through the dealer and there
is no titling procedure. This simplifies dealer's task.

He would like to see mandatory inspection.

I got the impression that many in New York would like just
one class with a 30 mph limit. More powerful ones would be
classed as motorcycles.

-ooo-

Leonard A. Fink, Friedman, Medalie and Ochs (I understood this to
be a law firm representing the industry.)

Mr. Fink presented the industry position.

In addition to the federal definition and standards, 38 states
have enacted moped laws. The result is a hodgepodge.

He noted that NHSC standards on equipment preempt state standards.

Industry can live with VESC definition (cc, auto-clutch, can be pedalled, bhp and speed capability).

Industry likes operator license and a minimum age limit.

Industry wants a single registration system.

They have no position on inspection.

They are against mandatory helmet and 'goggle' laws.

Industry believes that a reasonable insurance system will be difficult to develop, but they do not seem to be opposed if insurance industry can provide a program.

They are against dealer registration as motor vehicle dealers.

Industry is opposed to two people being permitted to ride on a moped. The frame and tires are not designed for the extra rider.

Section 4 - Henry Selverstone, Steyr Daimler Puch of America delivered a luncheon speech.

He wants the people who develop moped regulations to have ridden mopeds in real life situations. He offered to lend mopeds for this purpose.

He quoted figures from a recent magazine depicting the typical moped buyer.

The typical moped buyer (not necessarily the user) is middle aged.

He predicts that by 1980 the mass merchants (Sears, etc.) will be selling mopeds.

There are 80 manufacturers of mopeds worldwide. There are two in the United States, AMF and Murray of Ohio.

Mopeds are safer than cars and motorcycles.

Over-regulation will be the death of mopeds.

He suggests that we use 30 years of European experience to guide us.

"Small is beautiful and slow is fast enough"!

Section 6 - Workshop on Training.

Larry B. Lindauer, Director, Motorcycle Research and Projects, Southern Illinois University at Carbondale.

The doubling and tripling of moped sales makes it urgent that we plan now for training moped operators.

-ooo-

Richard Kaywood, Coordinator, Safety and Driver Education, California State University, Long Beach.

The moped is not for two people. The added weight makes stopping distance too long and acceleration and power too feeble.

He quoted from an accident study made by the AAA of Southern California. (I expect to receive a copy). They investigated 111 accidents involving mopeds in 6 cities. Males were involved in 76% of the accidents; 75% were under 21 years of age; 70% were in the 16-17 year age bracket; and 10% were under 16 years of age.

The most common type of accident was the one vehicle accident where the rider lost control.

He noted that when a moped rider is giving an arm and hand signal, the rear brake cannot be used (True of almost all mopeds).

He suggests that it is not true that an automobile driver can properly operate a moped without instruction.

He suggests that the Motorcycle Safety Foundation training pattern could be used as a basis for developing a moped training course.

Our schools train in pedestrian, bicycle and auto driving safety. We should use their experience in developing a moped training program.

Dealers do not have the time nor talent to train new riders.

The Moped Association and the industry have an obligation to establish a program. It will take money, and some money should come from the industry. The most immediate and quickest available sponsor for a training program is the industry.

Motorcycle education classes could include moped training.

License requirement would get people to need and want instruction. Japan is the leader in moped instruction. Their license tests are so difficult that one will surely fail if he has not received formal instruction.

He suggests 8 hours on a moped plus classes in theory of safe riding and in learning the laws.

In the United Kingdom, the school system devotes some time during two years to moped instruction.

-###-

Session 7 - Foreign Experience

Bruno Porrati, President, Vespa of America Corporation.

It is not possible to simply adopt European models of moped usage and control.

In Europe the distances are small and traffic is crowded and congested.

In Europe there are 16 million mopeds. Forty percent are in France; 21% in Italy and 14% in the Netherlands. Other percentages run from 1% in Norway to 7% in West Germany (Considering the small size of the Netherlands, the 14 is a crowd of mopeds in a small area.)

Seventy brands of mopeds are now available, but 24 are most important.

He believes that the use of mopeds in Europe will grow principally because of the increasing price of gasoline and increase in taxes.

Concerning regulation, he favors operable pedals, insurance and a minimum age of 14 to 16 years. He is opposed to registration, helmets and license.

In his view the moped is the least dangerous of motor vehicles. Drivers in Italy are becoming used to seeing mopeds and know how to cope with them.

In Europe the teen-agers are the biggest users, but the adult market is coming.

Advantages of Mopeds: simple, low cost maintenance; fuel economy; easy to park; don't crowd streets; distances are short in Europe and ideal for the moped.

At present, France, Italy and the Netherlands are the largest markets. The U.S. market will eventually surpass the European. The Australian market will be big.

The mopeds sold in the United States are different from those sold in Europe. The United States has stricter standards on tires, lights, reflectors, brakes. This adds about \$50.00 to the cost of a moped sold in the United States.

The United States models may be equipped with an oil injector, because filling stations do not sell a pre-mixed oil/gasoline fuel.

-ooo-

William Hoey, Wilbur Smith Associates

Mr. Hoey spoke on a study he had made about 1967 for Dutch authorities in the Rotterdam-Rijnmond region.

In the Netherlands, the cold winters make mopeds difficult to use during that season.

Auto ownership goes up as income goes up.

Most trips in the Rotterdam area are short, perhaps 3 or 4 miles.

He was against the use of mopeds on bicycle paths, but the government over-ruled this recommendation. He considers the moped a street vehicle. Only the main arterials have Class I bike paths. This desire to keep mopeds off main arterials could have influenced the government's decision.

The move to the suburbs increased auto trips and decreased bicycle and moped trips.

Moped use went down 50% when the mandatory helmet law went into effect. Ladies have hair-do problems.

In his opinion, bicycle riders and moped riders don't obey laws well, while auto drivers do. He believes driver training is the reason. The Dutch have bicycle training and there is a carry-over to mopeds. In addition, parents support law enforcement.

He thinks that the 50 cc engine is so small that pollution is not a problem except when one is standing next to the running engine.

-ooo-

James A. Newman, Carlton University, Ottawa, Canada.

Mopeds came and went quickly in Ontario. The cause was lack of timely regulation.

-###-

Session 8 - Safety Education Programs

Sergeant D. D. Morrison, California Highway Patrol.

He compares the moped to a motorcycle, not to the bicycle, and emphasizes street use. However, California will probably not class it as a motor vehicle.

He believes registration and license to be necessary.

He is opposed to a second person on the moped as handling characteristics change, even with foot pegs.

Protective gear should be worn.

The 15 - 25 year old riders have most accidents, with fault equally divided between moped rider and motorist. In bicycle accidents, he said, 80% are the fault of the bicyclist.

-ooo-

Dan Flaherty, School Traffic and Safety Education, Los Angeles Unified School District.

They intend to teach about mopeds in the 7th, 8th and 9th grades. The instruction will be informational and will attempt to motivate these young children to stay off of mopeds which they have no legal right to be on.

In the 10th grade, those who are in Driver Training will be made aware of the moped and its limitations and how the motorist must cope.

At the high school level they intend to teach moped skills on a voluntary basis of those who own mopeds.

Regular teachers will be used to teach the pre-license groups in health or physical education classes.

At the high school level the driver education classes will handle moped instruction in classroom, but a specially trained teacher will teach moped riding skills.

Developing the right attitudes is the most difficult problem.

Money to pay for this instruction will have to come from the school district, and it is up to the parents to influence the Board.

Teachers want short, simple and clear material. It must be made flexible, expandable, easily duplicated. Resources must be made known to teachers.

Pupils must be forced to participate. Written work must be required.

In Los Angeles they have bicycle classes in grades 5 thru 9, but they are not mandatory.

Larry B. Lindauer, Southern Illinois University at Carbondale.

The name of their course is "Moped Rider Techniques". It covers training in decision-making and operational skills. Pre-requisite is Driver's Education and a driver's license. It is conducted separately from their motorcycle course.

They recognize speed and acceleration problems.

Needed are: (1) Instructors; (2) Vehicles; (3) Facilities; (4) Insurance; (5) Maintenance capability. Spare parts are hard to get.

They spend 4 hours on the moped. Maneuvers are: start; stop; linear riding; curves; serpentine. One and one half hours is spent on braking. They teach simultaneous front and rear braking without locking wheels. (There is some difference of opinion on this. Some prefer rear braking first. I believe that different makes of mopeds may have differing characteristics in braking).

-ooo-

Laura McIntosh, Auto Club of Southern California.

They investigated 111 moped involved accidents in Los Angeles and Orange Counties in 1976 and 1977. I have asked for a summary.

The following types and percentages of accidents were identified:

1. Single vehicle	21%
2. Right turning vehicle	16%
3. Moped hits from rear	16%
4. Hit by left-turning vehicle from opposite direction	14%
5. Moped-Motor Vehicle cross traffic collision	5%
6. Left-turning moped collides with vehicle from opposite direction.	5%
7. Suddenly-opened car door	5%
8. Vehicle hits rear of moped	4%
9. Other	14%

In their view, the types of accidents resemble bicycle and motorcycle accidents (See Ken Cross study).

The type of accident where the moped collides with the rear of another vehicle seems to be unique to mopeds.

The young people have the worst record. One out of 10 persons involved in accidents is under 16 years old.

Eight out of 10 persons involved in accident owned and operated the moped.

Unlicensed moped operators are greatly involved.

-###-

Session 10 - Accident Analysis and Treatment

Roger P. Quane, Director of Research, Motorcycle Safety Foundation.

In most states, data input is combined with motorcycle data, since there is no separate place for listing moped accidents. We need a uniform reporting system. We need separate moped data collection. We need valid data.

Property damage accidents involving mopeds are mostly unreported and may be unimportant.

-ooo-

Robert P. Bates, Southern Illinois University at Carbondale.

He made a very good case for protective clothing and equipment: helmets, heavy gloves, boots and body covering.

There are three types of helmets:

- (1) Full face with shield.
- (2) Side protection but no lower jaw covering.
- (3) Shorty - upper skull protection only.

He doesn't believe the bicycle helmets are good enough.

Over-the-ankle shoes are best. Shoe laces can catch; straps are better.

Gloves should be heavy leather and close-fitting to permit finger use.

Protective clothes such as pants and coat should be worn.

He likes headlights on all the time.

-ooo-

Ross Kelly, Arizona Department of Transportation.

No paper is yet available and the speaker spoke very rapidly. However, the following notes are probably accurate.

Three states now keep separate data for moped involved accidents.

The under-24 years of age group provided 65% of accident cases.

The most prevalent types of accidents are, in descending order of frequency:

- (1) Failure of moped rider to yield the right-of-way
- (2) Inexperience of moped rider.
- (3) Inattention of moped rider.
- (4) Bad road condition.
- (5) Mechanical defect.

Most accidents occur at intersections.

We need moped registration.

We must keep separate data for mopeds.

Arizona has 4 classes of motorized two wheelers:

- (1) Motorcycle
- (2) Minibike
- (3) Motorscotter
- (4) Moped

He likes hands-on test to prove riding ability.

-ooo-

William Hunter, Highway Safety Research Center, University of North Carolina.

They are developing a model to forecast how moped accident problems in the United States may develop.

The model will be used to predict trends.

They will recommend research and safety program action.

At the moment they have just about finished reviewing the literature on mopeds. (They may well be a good source for a bibliography on mopeds and accidents).

New York, Florida and Massachusetts have a great many moped accidents.

NEISS begins to collect moped accidents data separately on October 1, 1978.

Theirs is a one year effort and they hope to finish by January 1, 1979.

Session 12 - Workshop on Legislation - M. Paul Zimmerman,
Executive Director, Moped Association of America.

The material from this session is incorporated in Part I.
An Up-to-date summary of state legislation and law is being sought
from Paul Zimmerman and when obtained will be in file and avail-
able.

-000-

Subsequent to the writing of the above report, I have obtained
a copy of Consumer Reports, June 1978. This is in file. The
lead article concerns mopeds. I recommend its study. The data
on law does not seem as up-to-date as my notes.

June 14, 1978

MEMORANDUM TO: James Nelson, Coordinator
HJR-51 Bicycle Study Committee

John Rost, Chairman
Citizens Bicycle Study Committee

FROM : Raymond J. Salehar
Automotive Safety Engineer
Motor Vehicle Registration

RE : First National Moped Conference
May 10-12, 1978
The Grand Hotel, Anaheim, California

PURPOSE : To attend the First National Moped
Conference and review with Urban Planners,
discuss with State Administrators and
manufacturers the impact of Mopeds on
roadways and highways.

CONCLUSION

The State of Maryland has taken the proper and cautious approach for introduction of this motor-driven cycle by limiting its use to individuals with drivers licenses on local roadways. Its high initial cost limits its use as a localized personal element of transportation. Its high fuel efficiency may eventually extend its use from local streets into major arteries but it should be restricted to roadway whose speed limit is no greater than 50 MPH. Over-reaction to its popularity would have resulted in over-regulation. At present, it is prudent to maintain a "wait and see" attitude following HB-309 passage by creating a new definition of moped and putting it into its own class. Attending this conference will make Maryland more aware that over-regulation can stifle growth, but the pros and cons of registration, licensing, helmets, accident data collection and forecasts for greater public acceptance and increase of its numbers have resulted in my being more convinced that Maryland has done the correct thing re HB-309.

DISCUSSION

The moped was designated by the Federal DOT/NHTSA as a "motor driven cycle" (CFR 49 571.3) resulting in minimal import duties. Because most manufacturers are overseas, and American manufacturers have not begun production, it will remain at its present high initial price (Min. \$399.00). American production should reduce this price. If public acceptance is maintained at

its present high level, we may see an increase of mopeds in Maryland. It is basically very different from a bicycle, because no human power is needed for tractive power, other than starting. When the engine begins propulsion, it is simple to operate and maneuver because of its stability and low center of gravity. Major seminar presentations and audience discussions are reviewed below:

IMPRESSION OF MEETING

It was surprising to Mr. Armstrong and me that a FIRST Conference on Mopeds generated so much interest and enthusiasm on the part of the presenters and participants with 130 persons attending. The facilities were good because the summer tourists had not arrived and the parking lot was available as a "proving ground" for participation in demonstration rides. Exhibits by moped manufacturers led to enthusiastic discussion groups and awareness of minute differences between the various brands and models. Prices vary from a basic machine for \$399 to a deluxe unit for \$725. Because presentations were concurrent, the Bicycle Study Committee should be commended by sending two persons to the meeting resulting in most areas of concern to Maryland being attended.

DISCUSSION

It is estimated 160,000/200,000 mopeds have been imported into the U.S. Obviously, in areas of the sun-belt and close to ports of entry such as California, there are more mopeds purchased than in other areas. Two domestic manufacturers are tooling for production, Columbia and AMF. Their impact on pricing is unknown but the foreign manufacturers representatives indicated they are willing to be competitive in order to obtain a part of the U.S. market. Light weight, fuel efficiency, convenience and being a personal method of travel, it relates to one's own car so that it should appeal to urban Americans. Maintenance is small and inexpensive, ease of storage, maneuverability and a low noise level should attract feminine operators. Retaining its pedals for ease of starting makes starting simple. Its use in metropolitan areas of Maryland may be limited until roadways are set aside for moped use. As a commuting device, presenters at this meeting concluded it is a personal choice by an individual to serve a local situation.

PRESENTATIONS: MOPEDS AND BICYCLES

The moped was developed some time ago in northern Europe in a cultural and geographic environment favoring bicycles. Because bicycles are an important mode of travel in this area, people learn to ride them fairly safely according to the rules of the road. Even so, the accident experience of mopeds was a problem until various municipalities in the Netherlands and Belgium required mopeds to share the extremely wide bicycle-ways.

Bikeways in the U.S. tend to be 24" or 30" wide, while overseas they may measure 4 to 5 feet in width and parallel the major roadways. In the cities, bicycles and mopeds were made to share the right hand side of the road flowing with the traffic. However, the European cultural background seemed to have the mopeds operate quite safely unless they wanted to ride with the motor vehicle traffic. Then the accidents would occur. Initially the bicycles and mopeds could not mix until the authorities divided the bikeways, with bicycles on the left and mopeds on the right. All transportation seems to pay strict attention to traffic signals, crosswalks and other traffic. However, in the U.S. although the physical environment may be favorable for moped use, the social environment is questionable. Americans tend to be good auto drivers, but the quality of bicycle driving is poor. Bicycles seem to be treated as toys rather than vehicles. Unless it is registered as a vehicle, (rather than a bicycle) severe safety problems may occur as moped sales increase.

COMMUTER DEMAND

One way to compare commuting costs and assess the potential demand for moped use involves comparing costs of moped travel to other models of commutation. Fixed cost of automobiles far exceed the moped, but the per-mile costs of the moped exceed that of the car. As commuting distance increases, the cost difference decreases until the moped becomes more expensive than the car.

Actually, we do not have the experience with mopeds in the U.S. or ready economic data to draw a firm conclusion. The economic model processed at East Tennessee University suggests that mopeds will find their greatest economic advantage for shorter commutes in congested areas where their relative speeds will be similar to other vehicles, if not faster. Nevertheless, a perceived danger from larger motor vehicles could seriously limit its use in large cities, due to traffic situations. The moped's lower acceleration will require an experienced former automobile driver.

FORECASTING DEMAND

Forecasting demand for an essentially new product is risky. Factors in assessing market potential, especially in the United States, are demographics, product utility, cost, comparable other products, regulatory influences, price trends, usual growth/saturation patterns and foreign experience. Because the moped is a highly discretionary big-ticket, sometimes an impulse durable goods purchase, similar products such as motorcycles and snowmobiles may provide some market benchmarks. In assessing the moped's potential, we do have historical foreign experience. Examining that data rather than the motorcycle and snowmobile markets, it is noted that there are variations in Europe by country. The best estimate of U.S. moped market penetration is about five million units in the mid-1980's, given the present and reasonably foreseeable energy and regulatory environment.

Another method of projecting demand for mopeds is to compare costs of moped travel to the costs of other vehicles such as cars or bicycles. Although the fixed cost of the automobile considerably exceeds the fixed cost of mopeds, including parking and walking to destinations, the per-mile cost of the moped may exceed cars if you include time, increased accident hazard and environmental exposure. As the commuting distance increases, the cost difference between the two modes decreases until the moped becomes more expensive than the car. Actually, we do not have the experience in the U.S. or data from Europe to draw any conclusions. The moped will find its greatest economic advantage in short commutes in congested areas where its speed is similar to other vehicles, if not faster. Larger motor vehicles could seriously reduce the demand for moped travel in larger U.S. cities.

REGISTRATION

To make a correct and informed decision regarding safety laws governing mopeds, it is necessary to gather information and statistics on its use. Because it is not generally registered, or because of a diversity in the manner in which statistics are obtained and recorded, it is almost impossible to develop valid analysis and policies concerning the conditions affecting moped safety. The majority of presentators were joined by a common statement that mopeds should be registered in order to record population and to identify accidents and fatalities, but primarily as a theft deterrent. However, the manufacturers are aware that identifying the frame with one number code and another code for the engine results in a complex registration system. California has a private registration system that began as a means of reducing theft and of theft recovery. When the CHP requested mandatory registration, the legislature defeated the bill, stating that private enterprise is capable and is actually doing a task more efficiently than the state could. Each selling dealer assesses the purchaser \$7.50 for the primary registration fee, or uses this as a sales incentive, for initial recordation. The owner has the option of renewing the fee the second year for \$5.00. At present, they have not gone beyond registration for three years until a more definite requirement is established. Liaison with law enforcement personnel by the registrar has products of a high recovery rate and a desirable anti-theft device.

Insofar as Maryland is concerned, there does not seem to be a need until the moped population increases sufficiently or the accident rate increases significantly. The new MAARS reporting form has mopeds listed as a highway user that can become involved in accidents. Since most law enforcement personnel use the MAARS form it is anticipated that a year's exposure may prove to be a baseline for deciding registration.

Identification of the moped driven with the ID card or a valid driver's license has suggested the moped will be operated by more mature responsible adults having proper credentials and financial responsibility, than the younger citizens who would

rather spend the \$399 initial cost on a road-type motorcycle. Registration fees vary from state to state, but it should be set high enough to support the computer file maintenance cost. The moped computer program should be structured in consultation with law enforcement personnel to aid in retrieval and not for computer convenience.

INSURANCE

There seems to be a lack of uniformity within the insurance industry on what the best and most economical strategy would be for coverage of rider and moped. Maryland's statutory requirements for motor vehicle operators insurance can be used as a guide for the insurance underwriters who are having difficulty in writing policies because of the diversity of state laws and because a history of exposure has not been obtained. Questions such as, should there be a uninsured operators fund, should riders be allowed or even considered, and since many moped accidents tend to involve no other contact than the original operator or an unaware auto driver, how could policies be written for this kind of exposure? Certainly they cannot be added to an individual's homeowner policy, since not everyone carries this coverage.

The moped operator needs to be made aware of the risk he poses by just being on the roadway, because of his low silhouette and low speed. Insurers are becoming aware of the moped existence because of its high theft rate, and registration might be required if for no other reason than as a countermeasure for high insurance rates. If finance companies are involved, how will insurance carriers cope with this problem?

Other states report that insurers are not available even to write this policy, except certain "specialty" companies whose premiums are necessarily high and not practical if the moped population increases as predicted.

Problems of the moped compound the insurer's dilemma. Its light weight and low speed would favor a low liability, but very young drivers and the possibility of guest passengers with "bicycle mentality" could result in confusing settlements and long court suits when different ages of individuals are involved. The need for insurance will and may require some very thoughtful legislation that would result in coverage to the operator (young and old alike) without being economically oppressive as some auto insurers are today toward the young driver. The insurance industry would do well to call attention to the low cost and easy availability of coverage rather than acting as though mopeds don't need insuring. The long-term effect of the latter course will be to alienate large segments of the motoring public. We as a state agency should be aware that over-zealous insurance commissioners can also pose a threat to development of the market for moped insurance. Mopeds are a socially and economically attractive alternate means of transportation, and if we are to

maximize their potential we should cooperate with the industry by making their capabilities and limitations widely known.

MOPED PERSPECTIVE - SAFETY

The inter-mixing of the bicyclist, pedestrian, motorist and motorcyclists can be a problem on the roadways. Many researchers have cited the European experience of safe moped operation. But any generalizing of the foreign experience to the U.S. should not be done, because the social differences, roadway types and speeds cannot be compared, and the motorists' vehicles and driving psychologies are vastly different. Four principal elements of mopeds can be possible safety problems: low power, poor conspicuity, operator inexperience and brake lever location. Legal limitations on engine size and power, while advantageous in reducing operating expense, may prove to be a hazard in reducing acceleration to a point where it may very well interfere with normal traffic flow. The low silhouette of the moped, combined with its novelty, makes identification by the motorist difficult and further puts the moped at a higher risk in traffic. If the moped stays close to the curb or uses the bikeways next to a shoulder of the highway, it creates a conflict with bicycle traffic and can be a hazard by striking the curb and going out of control. Again we can cite lack of operator experience and training, and absence of a helmet as further dangers to the operator. Lack of standardized brake controls may confuse the beginning driver and contribute to his control problems. Education is needed for these new, young drivers. Implementation of this training should be along the lines of driver training for motor vehicle operators, and we must realize that Americans are generally good auto drivers but poor bicycle operators. Since the moped is a combination of a bicycle and an internal combustion engine, it certainly seems to call for some special training, either at the time of registration or in school, or at the time of application for an operator's permit.

MOPED PLANNING

Despite its importance, citizen participation is often overlooked or not practiced. It is not only necessary to announce this planning phase in the classified advertisement section of the newspapers and think that we as state officials have done our designated jobs. We have to solicit not the loud environmentalist or neighborhood "do-gooder", but the honest sincere individual who has purchased a moped, learned how to operate it himself, and then found that he has problems on the roadways or mixing into the traffic flow. It is this kind of individual whose aid we have to find and solicit in the planning process. The moped seems to have universal appeal, and if an earnest and sincere campaign strategy is outlined and publicized, these persons can become a part of governmental planning strategy. Moped dealers should be brought into the planning process as an integral part in formulating policy so that undue regulation is not drafted that would restrict the sale of this product.

TRAINING OF MOPED OPERATORS

New training programs and testing procedures may be needed for the new moped operators that seem to be increasing in the U.S. NHTSA is planning to initiate a safety program development task for exploring the training of moped operators. But it will take too much time for any useful results to become available to us that would result in the design of a statewide training program. Instead, we should consider using the experience gained from our on-going motorcycle education and testing programs. A study has been started in Illinois that might serve as an accident and injury guide in that they are investigating accident causation characteristics of the moped as a relation to fuel efficient vehicles. There is little experience we could gain from any on-going programs, other than some California highway statistics. But these are only trends at best, that would provide a guide to any Maryland planning, equipment or facilities needed to initiate a training or testing program. One item that everyone seems to have stressed at the conference is that there is a lack of public information on mopeds and their position in the traffic mix, and the responsibility the motorist in a four-wheeled vehicle has in accommodating this new device. The motorist today is more concerned with other vehicles similar to his own and does not seem to tolerate kindly any vehicle that is different. This conditioned response is the one that needs to be changed. Any training program for moped operators should take into account the qualities of the unit, such as low profile, low speed and maneuverability and that there are different driving environments: urban, city and rural. Accident statistics show that in the rural environment if a moped conflicts with the automobile, the moped operator will probably become a statistic. It is these various kinds of driving environments and recognition of the limited capability of the moped as a driving instrument when compared to the automobile that needs to be stressed over and over again until both the car driver and moped operator recognize.

MOPED ACCIDENT EXPOSURE AND DATA

One of the major themes at the First International Moped Conference was identification of the moped accident causation, what countermeasures can be developed and methodology of accident identification and reporting.

The Province of Ontario a few years ago had very little or very liberal statutory requirement on the use of mopeds. They seemed to consider it a two-wheeled vehicle that had sprung from bicycle manufacturers but had not grown up to be a full-fledged motorcycle. It was therefore categorized as bicycle/moped/motorcycle two-wheeled vehicle system. Unfortunately, an incident occurred one evening in a shopping center with some young people consuming beer who decided to ride around the parking lot on a moped. It was not serious enough that one individual decided to do this, but a second desired to go along for the ride. In the shopping area was a late-closing drug store with quite a number

of people making last minute purchases and being shepherded out the door with all the employees and manager locking the door. There was a conflict among our free-wheeling occupants on the moped and a sudden intrusion of pedestrians coming out of the store, with the result that the moped riders suffered fatal injuries. As the media made headlines calling for regulation of drivers, riders and mopeds, legislation was hurriedly enacted which all but strangled the sale of mopeds in Ontario.

Two-wheeled accidents occupy approximately 10/30% of all accident statistics. In countries having a significant population of these vehicles, researchers can only state that the accident risk of moped and motorcycles is greater than cars while the bicycle risk is somewhat lower but is still higher than that for cars, with urban areas containing the greatest number of accidents. Arterials and intersestions seem to be the predominant sites for avoidance maneuvers. Rural accidents are more severe because of the higher speeds of the trajectory vehicle, where a moped rider is suddenly in view of the higher speed vehicle and, with reaction time and space for maneuver or stopping limited, fatalaties usually occur. Operators of these two-wheeled vehicles are unprotected except for the clothing they are wearing. There is some scope in the design of the units that might reduce severity of these accidents, especially fires caused by the fuel tanks becoming ruptured and fuel caps popping off too easily. Injury patterns seem to indicate a high incidence of head injuries (no protective helmets) and leg and foot injuries (lack of trousers or proper shoes). In this peculair situation, some of the following characteristics are peculiar to mopeds and cyclists:

- great variability of operator age, ability, experience and judgment,
- a definite need for convenient routing of these vehicles,
- need for traffic separation, and
- space requirements

These need to be considered by planners when roadways are altered, improved or newly designed. Basically, the need to separate bicyclists and mopeds from traffic flow is paramount.

The speakers all seem to stress the need for more education for the motor vehicle driver, that there are other objects on the roadways that can take up some of his space so that when an incident occurs the driver is more able to take evasive action than the moped or bicycle rider.

NEW YORK EXPERIENCE

Back on December 1, 1976, New York State legalized the use of mopeds and immediately took steps to include them into the traffic flow. The first laws were uneffective, and current statutes have been in effect since October 1, 1977, which sets

up distinct classes of vehicles based on classes of registration, operator licensing, helmets and insurance on some classes, registration of retail dealers, approval of manufacturers but no inspection or titling. Private opinion seems to indicate the laws are too cumbersome and too many.

ILLINOIS EXPERIENCE

Illinois on August 20, 1977, provided legal status for the moped by permitting it on public streets and roads and licensing of retail dealers, registration and titling as a means of determining exposure and accident rates of these new vehicles.

HAWAII EXPERIENCE

Little accident exposure, traffic violations are tolerated by the police, people tend to visit areas where there is no other transportation and a chorus of need for better and more bikeways to get away from inconsiderate motorists.

SUMMARY

Maryland has taken the proper steps to an orderly evaluation of the moped, by restricting the powerplant to less than 50 cc and increasing the HP to 1-1/2. This will not provide greater total speed, but will permit the operator to have a reserve of power for accident avoidance.

Some of the problems should be addressed by moped dealers and persons who are frequent users of mopeds and should not be considered in the framework of bicycles and not synonymous with motorcycles. Items of serious consideration as was brought to attention of the 130 or so individuals attending this meeting were and are Maryland's to consider:

1. Low profile of unit makes it difficult for motorists to identify.
2. Training of the moped operator on rules of the road.
3. With a companion training program for motorists so that they are aware of their responsibility.
4. The need for insurance should be reviewed.
5. Statutory exclusion for carrying of passengers. The unit does not have the framework nor the tires to carry two persons.
6. Limit the use of mopeds to individuals who have a driver's license.

7. Those applying for a Moped Operator's License should be given a test designed to make them aware of capability, operation and maneuverability of the machine, to be used and stressed as an accident avoidance mechanism.
8. Use of helmets to study.
9. Stress the need for driving gloves and proper shoes.
10. Driving lights should be on whenever unit is on the road.
11. Fuel system redesigned to prevent fuel cap from popping off if unit is in an accident.
12. Investigate computerization of vehicle data obtained from selling dealer or those in the field be ordered to register.
13. Study greater separation of moped from roadway but permitting it to travel on roadway shoulders, NOT on roadways.

R.J.S.

RJS:dl
Attachments

SECTION VI

COMMITTEE AND SUBCOMMITTEES PARTICIPANTS

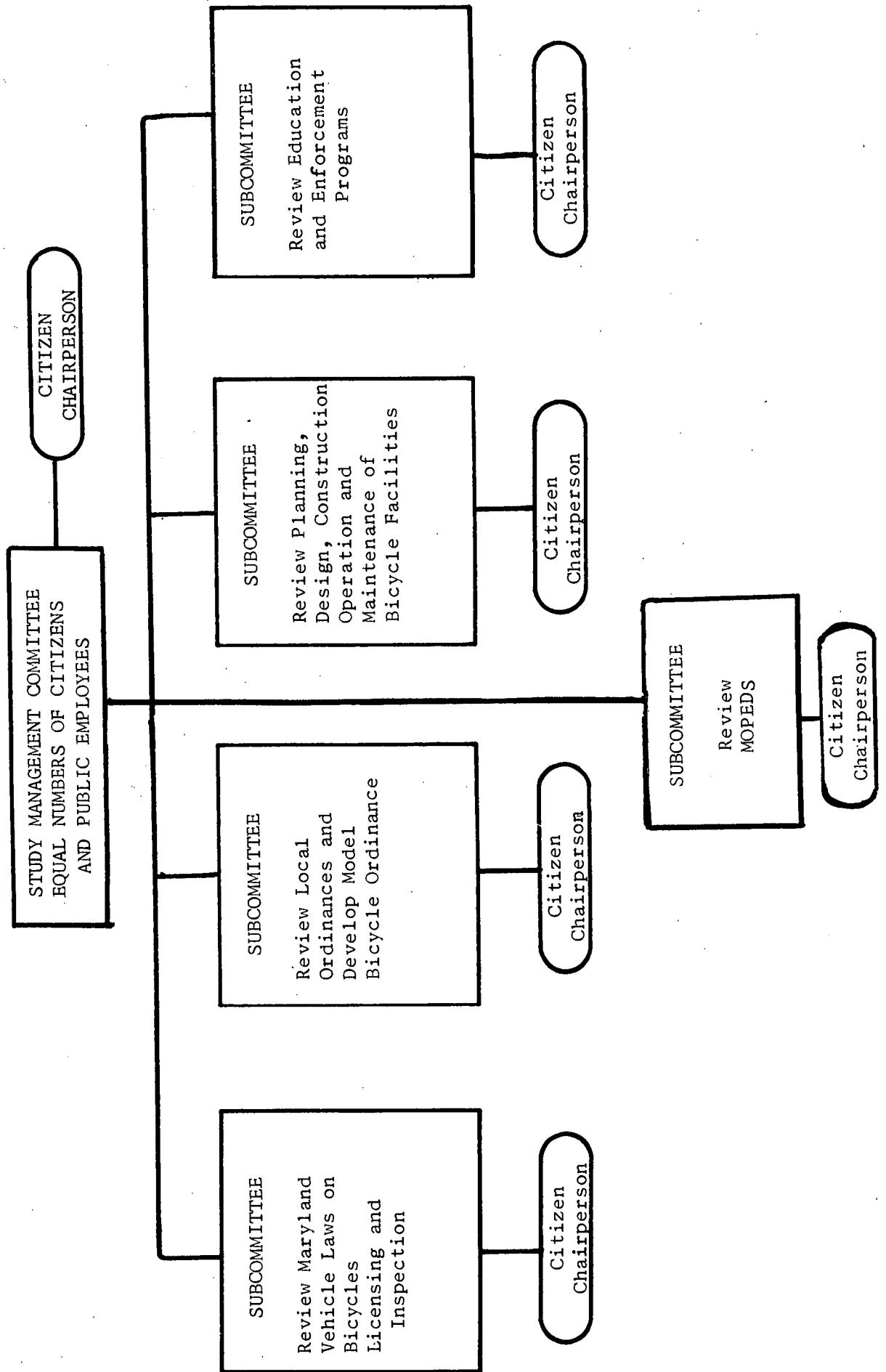
ORGANIZATION

The Citizens Bicycle Study Committee was formed to analyze the problems and issues as outlined in House Joint Resolution 51, passed by both houses of the Maryland legislature and signed into law by the governor on July 1, 1977. The Committee was asked to develop a report to the Maryland General Assembly on its findings. The issues addressed were first grouped into four major areas which included: (1) licensing and inspection, (2) review of local ordinances and model ordinances, (3) design, planning, construction and operation of facilities, (4) education and law enforcement, and (5) the moped. These then became the five subcommittees which were established and which analyzed relevant issues in each of these areas. In organizing this effort, the Maryland Department of Transportation worked with bicycle organizations, local government representatives and other state agencies in coming up with groups which were as geographically balanced as possible. Many of the bicycle representatives were either members of established bicycle clubs such as the Baltimore and Washington Bicyclists Associations, the Frederick Peddlers, the American Youth Hostels, etc., or had some knowledge or interest in bicycling. Both commuter and recreational interests were represented. In addition, levels of bicycle proficiency from the novice to the serious commuter cyclists participated. Also, traffic engineers participated, some of whom did not ride bicycles and who were concerned with auto/bicycle conflicts. This provided for a good balance of views among committee members.

A Study Management Committee was also formed which consisted of the chairpersons of all the subcommittees plus state agency representatives. The Study Management Committee had a majority of citizen members. This committee served as a decision making body and reviewed and approved materials prepared by the subcommittees. This citizen/public agency mechanism worked well and we recommend it to the General Assembly for other similar studies.

An organizational chart, is provided on the following page. The remaining pages in this section list the governmental as well as citizen members that participated in this undertaking.

PROPOSED HJR 51 BICYCLE STUDY COMMITTEE



CITIZEN'S BICYCLE STUDY MANAGEMENT COMMITTEE

Mr. John Rost, Chairman
8617 Bunnell Drive
Potomac, Maryland 20854

CITIZEN MEMBERS

Mr. J. E. Armstrong
7007 Alden Road
Pikesville, Maryland 21208

Mrs. Donna J. Campbell
2809 Folsom Lane
Bowie, Maryland 20715

Mr. Joe Gardiner
1421 John Street
Baltimore, Maryland 21217

Mr. Don Leuchs
Falling Waters Youth Hostel
Rt. 1, Box 238-B
Williamsport, Maryland 21795

Mr. Michael J. Lindemann
4204 Sandwich Circle
Waldorf, Maryland 21601

Mr. John Packard
211 Reckord Road
Fallston, Maryland 21047

Mr. Edward C. Schelhaus
803 Buena Vista Avenue
Arnold, Maryland 21012

STATE AND LOCAL AGENCY MEMBERS

Mr. Gene Baumgaertner
Traffic Engineer
District #3
State Highway Administration
9300 Kenilworth Avenue
Greenbelt, Maryland 20770

T.F.C. Samuel J. Brown
Maryland State Police Barracks
6601 Ritchie Highway
Glen Burnie, Maryland 21061

State and Local Agency Members (cont'd.):

Mr. Paul R. Farragut, Manager
Environmental Services, Division of
Maryland Department of Transportation
P.O. Box 8755
BWI Airport, Maryland 21240

Mr. Steven McHenry
Bikeway Program Manager
State Highway Administration
O'Connor Building, Room 1A1
201 West Preston Street
Baltimore, Maryland 21201

Mr. Greg Jones, Planner
Baltimore County Department of
Traffic Engineering
Room 245, Jefferson Building
Towson, Maryland 21204

Mr. Donald LaFond, Coordinator of
K thru' 12 Safety Education
Department of Education
P.O. Box 8717
BWI Airport, Maryland 21240

Mr. Ronald Lipps, Deputy
Division of Transportation Safety
Maryland Department of Transportation
P.O. Box 8755
BWI Airport, Maryland 21240

Ms. Donna Campbell has served as an alternate for
Mr. Michael Lindemann.

Mr. Don Leuchs represents the chairman of the Review Planning,
Design, Construction, Operation and Maintenance of Bicycle
Facilities Subcommittee.

Mr. Stephen Plemens replaced Mr. Baumgaertner in September, 1978.

Mr. James R. Nelson, Maryland Department of Transportation,
managed the grant from the Division of Transportation Safety, MDOT

Mr. Steven McHenry also serves as Executive Secretary for the
Management Committee.

A LISTING OF THE
PARTICIPANTS OF THE
FIVE SUBCOMMITTEES

SUBCOMMITTEE

1. Review of Maryland Vehicle laws on Bicycles-Licensing and Inspection"
2. Review of local ordinances and develop model bicycle ordinance
3. Review of Planning, Design, Construction, operations and maintenance of bicycle facilities.
4. Review education and enforcement programs.
5. Review of Moped regulations.

SUBCOMMITTEE ON REVIEW MARYLAND VEHICLE
LAWS ON BICYCLES-LICENSING AND INSPECTION
(Subcommittee Number One)

Mr. J. Edward Armstrong, Chairman
7007 Alden Road
Pikesville, Maryland 21208

CITIZEN MEMBERS

Mr. Thomas B. Eastman
Md. National Bank Building
10 Light Stteet
Baltimore, Maryland 21202

Mr. Thomas E. Hess
3204 Gartside Avenue
Baltimore, Maryland 21207

Mr. Ron Timmons
5003 Greenbelt Road
College Park, Maryland 20740

Mr. John Rost
8617 Bunnell Drive
Potomac, Maryland 20854

Mr. Mark Salo
14211 Georgia Avenue, Apt. T-1
Silver Spring, Maryland 20906

Mr. William Pleasants
508 Mayo Road
Glen Burnie, Maryland 21061

Mr. Edward C. Schelhaus
803 Buena Vista Avenue
Arnold, Maryland 21012

Mrs. Virginia Phelan
352 Rosebank Avenue
Baltimore, Maryland 21212

STATE AND LOCAL AGENCY MEMBERS

Lt. J. E. Glorioso
Maryland State Police
1201 Reisterstown Road
Pikesville, Maryland 21208

Mr. James E. Kienker, Chief
Division of Traffic Engineering
and Highway Safety
Howard County Department of Public Works
8950 State Route 108
Corman Plaza Building
Columbia, Maryland 21045

STATE AND LOCAL AGENCY MEMBERS (cont'd)

Mr. Raymond J. Salehar
Automotive Safety Engineer
Commissioner's Office
Vehicle Registration
Maryland Motor Vehicle Administration
6601 Ritchie Highway, N.E.
Glen Burnie, Maryland 21062

SUBCOMMITTEE REVIEW LOCAL ORDINANCES
AND DEVELOP MODEL BICYCLE ORDINANCE
(Subcommittee Number Two)

Mr. John Packard, Chairman
211 Reckord Road
Fallston, Maryland 21047

CITIZEN MEMBERS

Mrs. Donna J. Campbell
2809 Folsom Lane
Bowie, Maryland 20715

Mr. Michael J. Lindemann
4204 Sandwich Circle
Waldorf, Maryland 20601

Mr. Jack Potts
10014 Route 99
Ellicott City, Maryland 21043

Mr. Marion Warren
1935 Old Annapolis Road
Annapolis, Maryland 21401

STATE AND LOCAL AGENCY MEMBERS

Mr. Stuart Stainman, Regional Planner
Regional Planning Council
701 St. Paul Street
Baltimore, Maryland 21202

SUBCOMMITTEE REVIEW PLANNING, DESIGN, CONSTRUCTION
OPERATIONS AND MAINTENANCE OF BICYCLE FACILITIES
(Subcommittee Number Three)

Mr. William Tashlick, Co-Chairman
6123 Chinquapin Parkway
Baltimore, Maryland 21239

Ms. Kathy Caruso, Co-Chairperson
Towson State College
P.O. Box 2320
Towson State, Maryland 21204

CITIZEN MEMBERS

Mr. Rudy C. DeSeife
6911 Oakridge Avenue
Chevy Chase, Maryland 20015

Mr. Ken Cornelius
11818 Smoketree Road
Potomac, Maryland 20854

Mr. Art Fabel
14120 Flink Rock Road
Rockville, Maryland 20853

Mr. Jack Marney
6519 Bannockburn Drive
Bethesda, Maryland 20034

Mr. Mikus Grinbergs
1220 Noyes Drive
Silver Spring, Maryland 20910

Mr. Joe Eisenmeier
8622 Richmond Avenue
Baltimore, Maryland 21234

SUBCOMMITTEE REVIEW PLANNING, DESIGN CONSTRUCTION
OPERATIONS AND MAINTENANCE OF BICYCLE FACILITIES
(Subcommittee Number Three)

(Continued)

STATE AND LOCAL AGENCY MEMBERS

Mr. John W. Erdman, Assistant Commissioner
Department of Transit and Traffic
414 N. Calvert Street
Baltimore, Maryland 21202

Mr. Alexander A. Fleury, Chief
Bureau of Program Control
County Administration Building
Upper Marlboro, Maryland 20870

Mr. George E. Frangos, Director
Traffic Engineering Division
1 Harry Truman Parkway
Annapolis, Maryland 21401

Mr. Chips Johnson, Planner
Montgomery Department of Transportation
6110 Executive Building, 5th Floor
Rockville, Maryland 20852

Mr. Steven McHenry
Bikeway Program Manager
Maryland State Highway Administration
O'Connor Building, Room 1A1
201 W. Preston Street
Baltimore, Maryland 21201

Mr. Greg Jones, Planner
Baltimore County Department
of Traffic Engineering
Room 245, Jefferson Building
Towson, Maryland 21204

Mr. Christopher R. Newmann,
Transportation Engineer
Metropolitan Washington Council of Governments
1225 Connecticut Avenue, N.W.
Washington, D.C. 20036

Mr. Jack Wilhelm, Planner
Transportation Planning
George Howard Building
3430 Court House Drive
Ellicott City, Maryland 21043

SUBCOMMITTEE REVIEW EDUCATION
AND ENFORCEMENT PROGRAMS
(Subcommittee Number Four)

Mr. Joe Gardiner, Chairman
1421 John Street
Baltimore, Maryland 21217

CITIZEN MEMBERS

Ms. Mary Margrave
203 Thomas Avenue
Frederick, Maryland 21701

Mr. Jeffery H. Marks
6 Valdivia Court - K
Rockdale, Maryland 21207

Mrs. Alice Wooster
8807 Mead Street
Bethesda, Maryland 20034

Mrs. Marianne Patterson
7213 Maple Avenue
Takoma Park, Maryland 20012

Mr. John T. Overstreet
7954 Quarterfield Road
Severn, Maryland 21144

STATE AND LOCAL AGENCY MEMBERS

T.F.C. Samuel J. Brown
Maryland State Police Barracks
6601 Ritchie Highway
Glen Burnie, Maryland 21061

Dr. Larry Stewart
Extension Agricultural Engineer
Cooperative Extension Service
University of Maryland
College Park, Maryland 20742

Mr. Donald LaFond, Coordinator of K
thru' 12 Safety Education
Maryland Department of Education
BWI Airport, Maryland 21240

Ms. Ganie DeHart, Project Manager
Baltimore Region Bikeways
Regional Planning Council
701 St. Paul Street
Baltimore, Maryland 21202

SUBCOMMITTEE TO REVIEW MOPEDS
(Subcommittee Number Five)

Mr. Ron Timmons, Chairman
5003 Greenbelt Road
College Park, Maryland 20740

CITIZEN MEMBERS

Mr. J. E. Armstrong
7007 Alden Road
Pikesville, Maryland 21208

Mrs. Betty Gray
3113 Old Fence Road
Ellicott City, Maryland 21043

Mr. Jack Fischbach
4 Wagon Wheel Court
Glen Arm, Maryland 21057

Mrs. Blair Lee, III
Governor's Mansion
Annapolis, Maryland 21401

STATE AND LOCAL AGENCY MEMBERS

Mr. Dondal LaFond
Department of Education
P.O. Box 8717
BWI Airport, Maryland 21240

Mr. Raymond J. Salehar
Commissioner's Office
Maryland Motor Vehicle Administration
6601 Ritchie Highway, N.E.
Glen Burnie, Maryland 21062

Mr. Ronald D. Lipps
Maryland Department of Transportation
P.O. Box 8755
BWI Airport, Maryland 21240

GENERAL APPENDIX

SENATE OF MARYLAND

9lr3606

No. 1016

4000-TR000

By: Senator Conroy (Departmental - Transportation)	27
Introduced and read first time: February 23, 1979	29
Assigned to: Constitutional and Public Law	31
-----	33
Committee report: Favorable with amendments	34
Senate action: Adopted	35
Read second time: March 27, 1979	36
-----	37

CHAPTER _____	40
---------------	----

AN ACT concerning	44
-------------------	----

Bicyclists	47
------------	----

FOR the purpose of including bicyclists in the definition of pedestrian, allowing <u>permitting</u> a dismounted bicyclist to remain <u>walk a bicycle</u> on the right side of the highway; and <u>allowing bicyclists to ride two abreast on shoulders in certain instances.</u>	51
	52
	53

BY repealing and reenacting, with amendments,	55
---	----

Article - Transportation	58
Section 21-1205	60
Annotated Code of Maryland	62
(1977 Volume and 1978 Supplement)	63

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND, That section(s) of the Annotated Code of Maryland be repealed, amended, or enacted to read as follows:	66
	67

Article - Transportation	70
--------------------------	----

21-1205.	73
----------	----

{a} Each person operating a bicycle on a roadway shall:	76
---	----

(1) Ride SHALL RIDE as near to the right side of the roadway as practicable AND SAFE, except when making or attempting to make a left turn, when operating on a one-way street, or when passing a stopped or slower moving vehicle; [and]	78
	79
	80

(2) <u>MAY RIDE TWO ABREAST ONLY IF THE FLOW OF TRAFFIC IS UNIMPEDED;</u>	82
---	----

 EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.
 [Brackets] indicate matter deleted from existing law.
Underlining indicates amendments to bill.
~~Strike-out~~ indicates matter stricken by amendment.

{2}--Exercise (3) SHALL EXERCISE due care when passing a vehicle[.]; AND	84
{3}--A-BICYCLIST, WHEN DISMOUNTED, IS--CONSIDERED A--PEDESTRIAN;--HOWEVER,--HE-MAY-REMAIN-ON-THE-RIGHT-SIDE-OF THE-HIGHWAY.	86 87
{b}--Persons-operating-bicycles--in--a--public--bicycle area--OR--ON--A-SHOULDER-may-not-ride-more-than-two-abreast. Persons-operating-bicycles-on-a-{highway}-ROADWAY-shall-ride in-single-file.	89 90 91
(4) MAY WALK A BICYCLE ON THE RIGHT SIDE OF A HIGHWAY IF THERE IS NO SIDEWALK.	93
SECTION 2. AND BE IT FURTHER ENACTED, That this Act shall take effect July 1, 1979.	96 97

Approved:

Governor.

President of the Senate.

Speaker of the House of Delegates.

SENATE OF MARYLAND

9lr3604

No. 1017

4000-TR000

By: Senator Conroy (Departmental - Transportation) (By Request)	27
Introduced and read first time: February 23, 1979	29
Assigned to: Constitutional and Public Law	31
-----	33
Committee report: Favorable with amendments	34
Senate action: Adopted	35
Read second time: March 27, 1979	36
-----	37

CHAPTER _____ 40

AN ACT concerning 44

Bicyclists - Signals 47

FOR the purpose of modifying the requirement that hand and arm signals be displayed continuously for a distance of 100 feet before the turn is made; and giving bicyclists the option of making the right turn signal with the right hand and arm.	51 52 53
--	----------------

BY repealing and reenacting, with amendments, 55

Article - Transportation	58
Section 21-604(b) and 21-606(a) <u>and (c)</u>	60
Annotated Code of Maryland	62
(1977 Volume and 1978 Supplement)	63

~~BY-adding-to~~ 66

Article---Transportation	69
Section-21-606(e)	71
Annotated-Code-of-Maryland	73
(1977-Volume-and-1978-Supplement)	74

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND, That section(s) of the Annotated Code of Maryland be repealed, amended, or enacted to read as follows:	78 79
--	----------

Article - Transportation 82

21-604. 85

 EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.
 [Brackets] indicate matter deleted from existing law.
Underlining indicates amendments to bill.
~~Strike-out~~ indicates matter stricken by amendment.

(b) When required, a signal of intention to turn right or left shall be given continuously during at least the last 100 feet traveled by the vehicle before turning; EXCEPT THAT A BICYCLIST MAY INTERRUPT THE TURNING SIGNAL TO MAINTAIN CONTROL OF THE VEHICLE BICYCLE.

21-606.

(a) [Each] EXCEPT AS OTHERWISE PROVIDED IN-SUBSECTION (E), EACH required signal given by hand and arm shall be given from the left side of the vehicle in the manner specified in this section.

(E)--A-RIGHT-TURN-SIGNAL-MAY-BE-GIVEN-BY-A-BICYCLIST-BY THE-RIGHT-HAND-AND-ARM-EXTENDED-HORIZONTALLY-TO--THE--RIGHT-

(c) A right turn signal is given by the hand and arm extended upward; EXCEPT THAT A BICYCLIST MAY EXTEND THE RIGHT HAND AND ARM HORIZONTALLY TO THE RIGHT.

SECTION 2. AND BE IT FURTHER ENACTED, That this Act shall take effect July 1, 1979.

Approved:

Governor.

President of the Senate.

Speaker of the House of Delegates.

This bill was endorsed by the Maryland Citizens' Bicycle Study Committee and is consistent with recommendations contained in the report on bike-safe storm grates: note (III-7).

HOUSE BILL No. 1479
(91r3260)

4000-TR000

Introduced by Delegate H. Burgess 25

Read and Examined by Proofreader: 28

Proofreader. 30
31

Proofreader. 33
34

Sealed with the Great Seal and presented to the Governor, 36

for his approval this _____ day of _____ 38

at _____ o'clock, _____ M. 40

Speaker. 42
43

CHAPTER _____ 46

AN ACT concerning 50

Highways - Storm Drain Covers 53

FOR the purpose of specifying the types of storm drain 57
covers that are to be installed on the streets and 58
highways of Maryland after a certain date.

BY adding to 60

Article - Transportation 63
Section 8-648 65
Annotated Code of Maryland 67
(1977 Volume and 1978 Supplement) 68

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF 71
MARYLAND, That section(s) of the Annotated Code of Maryland 72
be repealed, amended, or enacted to read as follows:

Article - Transportation 75

8-648. 78

EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.
[Brackets] indicate matter deleted from existing law.
Underlining indicates amendments to bill.
~~Strike-out~~ indicates matter stricken by amendment..

~~AFTER-JULY-1, 1979, A STORM DRAIN COVER PLACED ON A~~ 81
~~STREET OR HIGHWAY IN HOWARD COUNTY THE STATE~~ ANY NEW OR 82
 REPLACEMENT STORM DRAIN COVER, INSTALLED ON A STREET OR 83
HIGHWAY IN THE STATE, AFTER JANUARY 1, 1980, SHALL CONSIST
 OF:

(1) BARS RUNNING PERPENDICULAR TO THE FLOW OF TRAFFIC 85
 ON THE HIGHWAY; OR

(2) A GRATING COMPOSED OF INTERSECTING BARS-- ; OR 87

(3) OTHER DESIGNS APPROVED BY THE DEPARTMENT OF 89
TRANSPORTATION WHICH MEET SAFETY DESIGN CRITERIA AS WELL AS 90
ENGINEERING AND STRUCTURAL DESIGN DEMANDS.

SECTION 2. AND BE IT FURTHER ENACTED, That this Act 93
 shall take effect July 1, 1979. 94

Approved:

 Governor.

 Speaker of the House of Delegates.

 President of the Senate.



Maryland Department of Transportation

State Highway Administration

James J. O'Donnell
Deputy Secretary

M. S. Caltrider
Administrator

MEMORANDUM

TO: Mr. Paul R. Farragut, Manager
Environmental Services
Office of Transportation Planning
Office of the Secretary

FROM: M. S. Caltrider
State Highway Administrator

SUBJECT: Bicycle Legislation

With reference to your memo of January 12, 1979 regarding the noted subject, this is to advise that I concur with the Department's position as expressed in your third paragraph to include the establishing of a definition for a "smooth surface."

The State Highway Administration will proceed to take the first step in the establishment of this definition.

If you have need for further comments at any time, please advise.

MSC:h

cc: Mr. Thomas Hicks

My telephone number is (301) 383-4202

Port Welcome Cruises

A Service of the Maryland Port Administration



Constellation Dock, Pratt Street
Baltimore, Maryland 21202 301/383-5705



January 10, 1979

Mr. Paul Farragut
Maryland Department of Transportation
Post Office Box 8755
BWI Airport, Maryland 21240

Dear Mr. Farragut:

This is to advise that as a result of your inquiry and our subsequent discussions, beginning May 1, 1979 the Maryland Port Administration will allow passengers to bring bicycles on public cruises aboard the M. V. Port Welcome. Those desiring to bring bicycles aboard will be required to make advance reservations and will be charged a fee of \$2.00 in addition to the regular fare. Due to the limited space on board the vessel, I feel that a maximum of twenty (20) bicycles can be accommodated per cruise. Of course, this is all contingent upon our ability to economically install suitable bike racks by the above date.

Your offer to provide design assistance for the required racks is graciously accepted, and will definitely make this deadline rather easy to achieve.

I hope this change in policy will serve to placate the wishes of those who desire to combine the fun and excitement of a Port Welcome Cruise with the added adventure of a bicycle tour of our many ports of call.

Looking forward to our meeting aboard the M. V. Port Welcome at 10:00 a.m. on January 23, 1979, I remain,

Very truly yours,

Henry P. Shade
Baltimore Cruise Manager

HPS:sam

cc: Mr. W. Gregory Halpin, Maryland Port Administrator
Mr. Robert R. Green, Deputy Maryland Port Administrator
Mr. Donald Klein, Director Port Promotion
Mr. Gerhard H. Siebert, Comptroller



JAMES B. COULTER
SECRETARY

LOUIS N. PHIPPS, JR.
DEPUTY SECRETARY

STATE OF MARYLAND
DEPARTMENT OF NATURAL RESOURCES
TAWES STATE OFFICE BUILDING
ANNAPOLIS 21401

269-3947

May 18, 1978

Mr. John Rost, Chairman
Citizen's Bicycle Study Management Committee
8617 Bunnell Drive
Potomac, Maryland 20854

Dear Mr. Rost:

I am pleased to notify you that our pre-application requesting assistance to convert the abandoned Northern Central Railroad right-of-way for recreation and conservation use has been selected by the United States Department of the Interior, Heritage Conservation and Recreation Service. This project was among 135 submitted nationwide involving a total funding request of \$70,000,000. This project is one of 10 selected to receive funding under Section 809(B) of the Railroad Revitalization and Regulatory Act of 1976.

I would like to take this opportunity to thank you for your recommendations and support of this project. The Department of General Services, Land Acquisition Program, is now negotiating with Penn Central Railroad Company to acquire the right-of-way. Baltimore County's Development Office is preparing plans for the development of the right-of-way for use as a hiking and biking trail. I am sure that these two agencies would appreciate your continued support. If I can be of assistance to you in this or other recreation projects, please do not hesitate to contact me.

Sincerely,

Fred L. Eskew
Assistant Secretary

FLE:vr

CC: Raymond Bosley
Frank R. Smith



DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
WASHINGTON, D.C. 20590

Mr. John Rost
Chairman, Citizens Bicycle
Study Committee
8617 Bunnell Drive
Potomac, Maryland 20854

FEB 21 1978

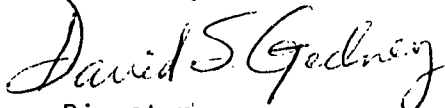
Dear Mr. Rost:

Thank you for your letter of February 3, 1978, concerning the integration of bicycle and rail operations under the Northeast Corridor Improvement Project (NECIP). We appreciate your interest in the need to consider the accommodation of bicycles as an integral part of our Station Development Program. In this regard, our architect/engineer consultants, DeLeuw, Cather/Parsons, will identify methods of incorporating bicycle access and storage requirements as an integral part of specific station designs where the demand exists and local zoning and building codes permit such facilities.

Although the improvement of on-train bicycle storage would be the responsibility of Amtrak, as Corridor operator, we shall advise Amtrak of the continued desirability of accommodating bicycles as part of their baggage handling operations.

We appreciate your interest in the NECIP.

Sincerely,

for 
Director
Northeast Corridor Project



